BOSCH INJ. PUMP TEST SPECIFICATIONS Note remarks Refer to Service Info for test and adjustment instructions. See microcard(s) W400/... Edition : 29,05,97 Test oil : ISO 4113 Combination No. : F 002 A0Z 024 Injection pump Pump designation : PES6A95D320/3RS2881 EP type number : 9 410 037 215 Governor Governer design. : RSV475...1150A0C896R Governer no. : F 002 A20 218 Cust. part No. : 3928596 Customer-spec. information Customer : CDC : 6BTA Motor Power KW : 126.5 TEST BENCH REQUIREMENTS Inlet line : 3.2 Test oil inlet temp. °C : +- 2.0 Tolerance °C Overflow valve : 2 417 413 093 Inlet press. bar : 2.0 Tolerance bar : + 0.1 Test nozzle holde : 1 688 901 101 assembly Opening pressure 208.5 bar Tolerance bar : +- 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter x length mm	: 2.0 : 600
REMARKS	
(A) INJECTION PUMP Set equal delivery per values	/ quant.
BEGINNING OF DELIV	/ERY
Test pressure bar Tolerance bar	: 17.0 : +- 1.0
Prestroke mm Tolerance mm Check	: 2.85 : +- 0.05
	: +- 0.10
Rack travel in mm Tolerance mm	: 10.50 : +- 1.50
Firing order	: 1-5- 3- 6- 2- : 4
Phasing	: 0-60-120-180-240 : -300
Start of delivery	blocking
°NW after s.o.d. Tolerance Check	: 8.50 : +- 0.50
	: +- 0.75
Barrel no.	: 1
BASIC SETTING	
Rated speed rpm	: 1150
Rack travel in mm Tolerance mm	: 13.15 : +- 0.05

A01

Del. quantity cm3/1000 strokes : 110.0	+ Aneroid pressure + hPa : 900 + Del. quantity
Tolerance cm3/1000 strokes : +- 1.0	cm3/1000 strokes : 110.0 Tolerance
Check tolerance cm3/1000s. : +- 3.0	- cm3/1000 strokes : +- 1.0 - Check tolerance - cm3/1000s. : +- 3.0
Spreed	+ Spreed + Tolerance + cm3/1000 strokes : 4.0
Tolerance cm3/1000 strokes : 4.0	Check tolerance cm3/1000s. : 6.5
Check tolerance cm3/1000s. : 6.5	<u> </u>
	+ CONTROL LEVER
Rated speed rpm : 475	control lever position degree : 106.0 tolerance degree : +- 4.0
Rack travel in mm : 5.80 Tolerance mm : +- 0.10 Del. quantity	RATED SPEED + rack travel mm : 12.10
cm3/1000 strokes : 22.0 Tolerance cm3/1000 strokes : + 2.0	Rated speed rpm : 1220 Tolerance 1/min : +- 5
Check tolerance cm3/1000s. : +- 4.5	rack travel mm : 6.70 Rated speed rpm : 1280
Spreed Tolerance	+ Tolerance 1/min : +- 5
cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 8.0	+ rack travel mm : 0.85 + Tolerance mm : +- 0.55
cm3/1000s. : 8.0	Rated speed rpm : 1400
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	+ rack travel mm : 6.70 + Rated speed rpm : 1280 + Tolerance 1/min : +- 15
	+
GUIDE SLEEVE POSITION	LOW IDLE
control lever position degree : - 3 Rated speed rpm : 800	control lever position degree : 83.0 tolerance degree : +- 4.0
Rack travel in mm : 0.50 Tolerance mm : +- 0.20	Control lever difference
governor spring pre-tension	+ Grad : 23.0 + tolerance degree : +- 6.0 +
click setting $x : 3.75$	Setting point w/out bumper spring
FULL LOAD DELIVERY AT FULL LOAD STOP	Rated speed rpm : 475 rack travel mm : 5.30 Tolerance mm : +- 0.10
Rated speed rpm : 1150	+ Rated speed rpm : 100

CRT mm min.	: > 19.00
Testing:	
Rated speed rpm rack travel mm Tolerance mm	: 475 : 5.80 : +- 0.10
TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm	: 1150 : 13.15 : +- 0.05
Rated speed rpm	: 750
ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Rated speed rpm Pressure hPa	: 500 : 900
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 500 : - : 11.05 : +- 0.20
MEASUREMENT	
Rated speed rpm	: 500
Pressure hPa rack travel mm Tolerance mm	: 590 : 12.60 : +- 0.20
Pressure hPa rack travel mm Tolerance mm	: 475 : 12.20 : + 0.20
FUEL DELIVERY CHA	RACTERISTICS
Aneroid pressure	
hPa	:
Rated speed rpm Del. quantity	: 500
cm3/1000 strokes	: 87.0
Tolerance cm3/1000 strokes	: + 1.0
Check tolerance	. 1.0
cm3/1000s.	: +- 3.0

STARTING FUEL DELI	IVERY		
Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: +- : +-	100 20.50 0.50 120.5 10.0	
LOW IDLE		······································	
Rated speed rpm	:	475	
Rack travel in mm Tolerance mm Del. quantity	: +-	5.80 0.10	
cm3/1000 strokes Tolerance	:	22.0	
THEFALLE			
cm3/1000 strokes	: +-	2.0	
cm3/1000 strokes Check tolerance cm3/1000S. Spreed	: +-	2.0	
cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes	: +- : +-		
cm3/1000 strokes Check tolerance cm3/1000S. Spreed Tolerance	: +-	4.5	

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 30.05.97 : ISO 4113

Combination No. : F 002 A0Z 062

Injection pump

Pump designation : PES4A95D320/3RS2927

EP type number : F 002 A10 017

Governor

Governer design. : RSV475...1100A2C942R

Governer no. : F 002 A20 243

Cust. part No. : 3930142

Customer-spec. information Customer : CDC Motor : 4BNA3.9 Power KW : 50.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 2 417 413 093

Inlet press. bar : Inlet press. bar : 2.0 Tolerance bar : + 0.1

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0 Tolerance bar : +- 1.0

Prestroke mm : 2.85
Tolerance mm : +- 0.05 Check tolerance mm : +- 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-3-4-2

Phasing : 0-90-180-270 Tolerance : +- 0.50

Check

tolerance °NW : +- 0.75

Start of delivery blocking

*NW after s.o.d. : 7.75 Tolerance : +- 0.50

Check

tolerance °NW : +- 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 9.25 Tolerance mm : + 0.05

Del. quantity cm3/1000 strokes : 82.0	Aneroid pressure hPa : -
Tolerance cm3/1000 strokes : +- 1.0	Del. quantity cm3/1000 strokes : 82.0 Tolerance
Check tolerance	cm3/1000 strokes : +- 1.0 Check tolerance
cm3/1000s. : +- 3.0	cm3/1000s. : +- 3.0 Spreed
Spreed	Tolerance cm3/1000 strokes : 3.5
Tolerance cm3/1000 strokes : 3.5	Check tolerance cm3/1000s. : 6.0
Check tolerance cm3/1000s. : 6.0	
	CONTROL LEVER
Rated speed rpm : 475	<pre>control lever position degree : 87.0 tolerance degree : +- 4.0</pre>
Rack travel in mm: 4.60 + Tolerance mm: + 0.10	RATED SPEED
Del. quantity	rack travel mm : 8.20
cm3/1000 strokes : 13.5	Rated speed rpm : 1155 Tolerance 1/min : +- 5
cm3/1000 strokes : +- 2.0 +-	
cm3/1000s. : +- 4.5 Spreed	rack travel mm : 4.00 Rated speed rpm : 1215
Tolerance	rack travel mm : 0.85
Check tolerance	Tolerance mm : +- 0.55 Rated speed rpm : 1450
cm3/1000s. : 5.5	rack travel mm : 4.00
(2) 277712 27 711527711 7117	Rated speed rpm : 1215
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	Tolerance 1/min : +- 15
‡	
GUIDE SLEEVE POSITION	LOW IDLE
control lever	control lever
position degree : -3	position degree : 72.0
Rated speed rpm : 800	tolerance degree : +- 4.0
Rack travel in mm: 0.50 + Tolerance mm: +- 0.20	Control lever difference Grad : 15.0
governor spring +	tolerance degree : +- 6.0
pre-tension click setting x : 3.75	Setting point w/out bumper spring
	Rated speed rpm : 475 rack travel mm : 4.10
FULL LOAD DELIVERY AT FULL LOAD STOP	Tolerance mm : +- 0.10
Rated speed rpm : 1100	Rated speed rpm : 100

CRT mm min.	: > 19.00
Testing:	
Rated speed rpm rack travel mm Tolerance mm	: 475 : 4.60 : +- 0.10
TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm	: 1100 : 9.25 : + 0.05
Rated speed rpm rack travel mm Tolerance mm	: 600 : 9.90 : +- 0.10
FUEL DELIVERY CHA	RACTERISTICS
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: - : 600 : 79.0 : +- 2.0 : +- 4.0
STARTING FUEL DEL	IVERY
Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: 100 : 20.50 : + 0.50 : 120.0 : +- 10.0 : +- 15.0
LOW IDLE	: 475
Rack travel in mm Tolerance mm Del. quantity cm3/1000 strokes	: 4.60 : +- 0.10 : 13.5

Tolerance cm3/1000 strokes : +- 2.0 Check tolerance cm3/1000s. : +- 4.5 Spreed Tolerance cm3/1000 strokes : 3.5 Check tolerance cm3/1000s. : 5.5

BOSCH INJ. PUMP TEST SPECIFICATIONS Note remarks Refer to Service Info for test and adjustment instructions. See microcard(s) W400/... : 03.06.97 Edition Test oi : ISO 4113 Combination No. : 0 402 646 739 Injection pump Pump designation : PE6P120A320LS7904 EP type number : 0 412 626 961 Governor Governer design. : RQ750PA1326 Governer no. : 0 421 801 815 Cust. part No. : 04222 3926 KY Customer-spec. information Customer : KHD
Motor : BF6M1015/C Power KW : 239.0 TEST BENCH REQUIREMENTS Inlet line : 3.2 Test oil inlet temp. °C : 40 Tolerance °C : + 2.0 Overflow valve : 2 417 413 033 Inlet press. bar : 2.5 Tolerance bar : + 0.1 Overflow quantity min. L/h : 250 Tolerance L/h : + 20.0

Outside diameter : 8.0 x inside diameter : x length mm : 1000 REMARKS (A) INJECTION PUMP SETTING VALUES Set equal delivery quant. per values _____ BEGINNING OF DELIVERY Test pressure bar : 26.0 Tolerance bar : + 1.0 Prestroke mm : 3.65
Tolerance mm : + 0.05 Check tolerance mm : + 0.10 Rack travel in mm : 10.50 Tolerance mm : +- 1.50 Firing order : 6-3-5-2-4-: 1 Phasing : 0-60-120-180-240 : -300 Tolerance : +- 0.50 Check tolerance *NW : +- 0.75 Start of delivery blocking "NW after s.o.d. : 300.00 Tolerance : +- 0.50 Check tolerance °NW : +- 0.75 Barrel no. : 6 BASIC SETTING

Test lines : 1 680 750 075

Test nozzle holde

Opening pressure

bar : 208.5 Tolerance bar : +- 1.5

: 1 688 901 105

assembly

Rated speed rpm	: 700	Rated speed rpm : 271 guide sleeve
Rack travel in mm Tolerance mm	12.40 : + 0.05	travel mm : 1.00 Tolerance mm : +- 0.10
Del. quantity cm3/1000 strokes	: 365.0	+ Rated speed rpm : 560 + guide sleeve + travel mm : 3.24 + Tolerance mm : +- 0.10
Tolerance cm3/1000 strokes	: +- 1.0	Rated speed rpm : 1154
Check tolerance cm3/1000s.	: +- 4.0	+ guide sleeve + travel mm : 12.00 + Tolerance mm : +- 0.10
Spreed		+ Rated speed rpm : 1230 + guide sleeve
Tolerance cm3/1000 strokes	: 5.0	travel mm : 13.50 Tolerance mm : +- 0.50
Check tolerance cm3/1000S.	: 9.0	FULL LOAD DELIVERY AT FULL LOAD STOP
		Rated speed rpm : 700
Rated speed rpm	: 300	+ Aneroid pressure + hPa : -
Del. quantity	. 333	Del. quantity
cm3/1000 strokes	: 20.0	+ cm3/1000 strokes : 365.0
Tolerance	7.0	Tolerance
cm3/1000 strokes Check tolerance	: +- 3.0	+ cm3/1000 strokes : +- 1.0 + Check tolerance
cm3/1000S.	: +- 6.0	+ cm3/1000s. : +- 4.0
Spreed		+ Spreed
Tolerance		+ Tolerance
cm3/1000 strokes Check tolerance	: 8.0	cm3/1000 strokes : 5.0
cm3/1000s.	: 12.0	+ Check tolerance + cm3/1000S. : 9.0
5.110 · 10000 ·		+
(B)		+
(B) SETTING OF IN WITH GOVERNOR	JECTION PUMP	CONTROL LEVER
		control lever
GUIDE SLEEVE TRAV	EL -	position degree : 109.0
Pated speed man	: 745	+ tolerance degree : +- 4.0
Rated speed rpm guide sleeve	: 745	T RATED SPEED
travel mm	: 4.54	+
Tolerance mm	: +- 0.15	rack travel mm : 0.50
Datad annual	: 300	Tolerance mm : +- 0.50 Rated speed rpm : 900
Rated speed rpm guide steeve	: 500	+ Rated speed rpm : 900 -
travel mm	: 1.24	ASSEMBLY GOVERNOR SETTING
Tolerance mm	: +- 0.20	+
Daniel	940	Rated speed rpm : 750
Rated speed rpm guide sleeve	: 860	+ rack travel mm : 11.40
travel mm	: 5.59	Rated speed rpm : 780
Tolerance mm	: +- 0.10	Tolerance 1/min : +- 4
400		

rack travel mm rack travel mm Tolerance mm	: 0.50	+ rack travel mm : 0.50 + Tolerance mm : +- 0.50 +
Rated speed rpm	: 900	LOW IDLE
Rated speed rpm rack travel mm	: 11.40	control lever position degree : 67.0 tolerance degree : +- 4.0
Rated speed rpm Tolerance 1/min rack travel mm	: +- 4	TORQUE CONTROL Rated speed rpm : 700
rack travel mm Tolerance mm	: 0.50 : + 0.50	Rated speed rpm : 700 - rack travel mm : 12.40 - Tolerance mm : +- 0.05
Rated speed rpm rack travel mm		Start interlock
Rated speed rpm Tolerance 1/min rack travel mm	: +- 4	Rated speed rpm : > 100 Rated speed rpm : < 560 Check
rack travel mm Tolerance mm Rated speed rpm	: +- 0.50	speed 1/min : > 80 Check speed 1/min : < 580
Rated speed rpm rack travel mm		STADIANC FUEL DELIVERY
Rated speed rpm Tolerance 1/min rack travel mm	: +- 4	Rated speed rpm : 100 rack travel mm : 20.25
rack travel mm Tolerance mm		Tolerance mm : +- 0.75 Del. quantity cm3/1000 strokes : 210.0 Tolerance
Rated speed rpm rack travel mm		- cm3/1000 strokes : +- 20.0 - Check tolerance - cm3/1000s. : +- 24.0
Rated speed rpm Tolerance 1/min rack travel mm	: +- 4	
rack travel mm Tolerance mm Rated speed rpm	: + 0.50	LOW IDLE Rated speed rpm : 300 Del. quantity cm3/1000 strokes : 20.0
Rated speed rpm rack travel mm		Tolerance cm3/1000 strokes : +- 3.0 Check tolerance cm3/1000s. : +- 6.0
Rated speed rpm Tolerance 1/min rack travel mm	: +- 4	Spreed Tolerance cm3/1000 strokes: 8.0

check tolerance	:	12.0	

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 02.06.97 Edition : ISO 4113 Test oil

Combination No. : 0 402 746 608

Injection pump

Pump designation : PES6P120A320RS7359 EP type number : 0 412 726 925

Governor

Governer design. : RQ275/1050PA1275 Governer no. : 0 421 801 805

Cust. part No. : CCEP 5157A 66-222

Customer-spec. information

Customer : RENAULT V.I.

Motor : MIDR062045 F/C41

Power KW : 152.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40 Tolerance °C : + 2.0

Overflow valve : 2 417 413 078

Inlet press. bar : 2.5
Tolerance bar : +- 0.1

Overflow quantity
min. L/h : 220
Tolerance L/h : +- 10.0

Test nozzle holde

assembly : 1 688 901 101

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm : 4.70 Tolerance mm : +- 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm : 20.25 Tolerance mm : +- 0.75

Firing order : 1-5-3-6-2-

: 4

: 0-60-120-180-240 Phasing

: -300

: +- 0.50 Tolerance

Check

tolerance °NW : +- 0.75

Start of delivery mark

"NW after s.o.d. : -0.95

Tolerance : +- 0.50

Check

tolerance °NW : +- 0.75

Barrel no. : 1

CRT ZERO POSITION

Rack travel in mm Tolerance mm	: 11.70 : +- 0.05	+ Rated speed rpm : 1050 + guide sleeve + travel mm : 6.70 + Tolerance mm : +- 0.10
BASIC SETTING		+
Rated speed rpm	: 1050	Rated speed rpm : 648 guide sleeve
Del. quantity cm3/1000 strokes	: 176.0	travel mm : 6.18 Tolerance mm : + 0.10
Tolerance cm3/1000 strokes	: + 1.0	Rated speed rpm : 375 guide sleeve travel mm : 5.00
Check tolerance cm3/1000S.	: +- 4.0	Tolerance mm : +- 0.10 Rated speed rpm : 450
Spreed		travel mm : 6.00 Tolerance mm : + 0.10
Tolerance cm3/1000 strokes	: 5.0	Rated speed rpm : 1300 - guide sleeve
Check tolerance cm3/1000S.	: 9.0	travel mm : 11.50 Tolerance mm : +- 0.50
		Rated speed rpm : 873
Rated speed rpm	: 275	travel mm : 6.52 Tolerance mm : +- 0.10
Rack travel in mm Tolerance mm Del. quantity	: + 0.10	GUIDE SLEEVE POSITION
cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.		control lever position degree : 109 Rated speed rpm : 500
Spreed Tolerance cm3/1000 strokes Check tolerance		Rack travel in mm : 20.00 Tolerance mm : + 0.80
cm3/1000s.	: 12.0	FULL LOAD DELIVERY AT FULL LOAD STOP
(B) SETTING OF IN. WITH GOVERNOR	JECTION PUMP	Rated speed rpm : 1050 Aneroid pressure hPa : 1000
GUIDE SLEEVE TRAVE	EL	the Del. quantity cm3/1000 strokes : 176.0 tolerance
Rated speed rpm guide sleeve		cm3/1000 strokes : +- 1.0 Check tolerance
travel mm Tolerance mm	: 7.06 : +- 0.15	+ cm3/1000s. : +- 4.0 + Spreed + Tolerance
Rated speed rpm guide sleeve	: 275	cm3/1000 strokes : 5.0 Check tolerance
travel mm Tolerance mm	: 2.44 : +- 0.20	cm3/1000s. : 9.0

: 276.0 : +- 4.0
: -1.00 : 1115 : +- 5
: -7.70 : 1205 : + 15
: -11.20 : +- 0.50 : 1350
······································
: 256.0 : + 4.0
ut bumper spring
: 200
: < -4.10
: 275 : -6.00 : +- 0.10
: +- 0.10
: +- 0.10 : -9.60 : 375 : +- 20
: -9.60 : 375_
: -9.60 : 375 : +- 20

ANEROID/ALTITUDE COMPENSATOR TEST		
John Ellowion Teor		
SETTING		
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 500 : 1000 : 1.10 : +- 0.10	
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 500 : - : -0.70 : +- 0.20	
MEASUREMENT		
Rated speed rpm	: 500	
Pressure hPa rack travel mm Tolerance mm	: 280 : 0.65 : ← 0.15	
Pressure hPa rack travel mm Tolerance mm	: 160 : -0.15 : + 0.05	
Start interlock		
Rated speed rpm Rated speed rpm	: > 100 : < 195	
Check speed 1/min Check	: > 80	
speed 1/min	: < 215	
FUEL DELIVERY CHARACTERISTICS		
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: 1000 : 600 : 195.0 : +- 3.0 : +- 6.0	
Aneroid pressure hPa Rated speed rpm	: - : 500	

Del. quantity cm3/1000 strokes : 151.0 Tolerance cm3/1000 strokes : +-1.0

Check tolerance

cm3/1000s. 4.0

STARTING FUEL DELIVERY

Rated speed rpm 100 Del. quantity

cm3/1000 strokes : 155.0

Tolerance

cm3/1000 strokes : +- 15.0

Check tolerance

cm3/1000s.: +- 19.0

LOW IDLE

Rated speed rpm : 275

Rack travel in mm : -6.00 Tolerance mm : +- 0.10 Del. quantity

cm3/1000 strokes : 30.0 Tolerance

cm3/1000 strokes : +- 2.0

Check tolerance

cm3/1000s. 5.0 : +-

Spreed

Tolerance

8.0 cm3/1000 strokes :

Check tolerance

cm3/1000s. 12.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 10.06.97 : ISO 4113

Combination No. : F 000 409 102

Injection pump

Pump designation : PES6P120A720LS7257

: -11

EP type number : F 000 400 201

Governor

Governer design. : RQV300...950PA1242

Governer no.

: 9 420 080 387

Cust. part No. : 0280743302

Customer-spec. information Customer : MBB

Motor

: OM 447LA Euro II

Power KW

: 264.8

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet

temp. °C

Tolerance °C

40

: +- 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 2.3

Test nozzle holde

assembly

: 1 688 901 105

Opening pressure

bar

208.5

Tolerance bar : + 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar :

Tolerance bar : +- 1.0

: 4.70 Prestroke mm

Tolerance mm

: +- 0.05

Check

tolerance mm : + 0.10

Rack travel in mm : 21.00

: 6-2-4-1-5-: 3 Firing order

: 0-60-120-180-240 Phasing

: -300

Tolerance

: +- 0.50

Check

tolerance °NW

: +- 0.75

BASIC SETTING

Rated speed rpm : 600

Rack travel in mm : 13.30

Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 277.0

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance cm3/1000s.

: +- 4.0

Spreed

Tolerance cm3/1000 strokes	: 5.0	control lever
Check tolerance		position degree : - 1 Rated speed rpm : 1120
cm3/1000s.	: 9.0	Pools travel in many 1/ 50
		Rack travel in mm : 16.50 Tolerance mm : +- 1.30
Rated speed rpm	: 300	
Dool Annual in my	. 5.00	FULL LOAD DELIVERY AT FULL LOAD STOP
Rack travel in mm Tolerance mm		Rated speed rpm : 600
Del. quantity	0.10	Aneroid pressure
cm3/1000 strokes	: 13.0	hPa : 1300
Tolerance	·	Del. quantity
cm3/1000 strokes	: +- 3.0	cm3/1000 strokes : 277.0
Check tolerance		- Tolerance
cm3/1000s.	: +- 6.0	cm3/1000 strokes : +- 1.0
Spreed Tolerance	-	Check tolerance : +- 4.0
cm3/1000 strokes	. 80	- Cins/10005. ; +- 4.0
Check tolerance	-	- Tolerance
cm3/1000s.	: 12.0	cm3/1000 strokes : 5.0
	-	Check tolerance
45.1	-	cm3/1000s. : 9.0
(B) SETTING OF IN	JECTION PUMP -	+
WITH GOVERNOR	-	
•		CONTROL LEVER
GUIDE SLEEVE TRAVE	EL -	- CONTINUE EEVEN
	-	control lever
Rated speed rpm	: 700 -	position degree : 114.0
guide sleeve		tolerance degree : +- 4.0
travel mm	: 4.55	DATES CORES
Tolerance mm	: +- 0.25	RATED SPEED rack travel mm : 12.10
Rated speed rpm	: 1050	Rated speed rpm : 1025
guide sleeve	- 1000	Tolerance 1/min : +- 5
travel mm	: 7.70	
Tolerance mm	: +- 0.10	rack travel mm : 4.00
.	700	Rated speed rpm : 1135
Rated speed rpm	: 300	Tolerance 1/min : +- 15
guide sleeve travel mm	: 0.75	rack travel mm : 0.50
Tolerance mm	: +- 0.25	Tolerance mm : +- 0.50
TO COT GITTOC TRIP	- 0.23	Rated speed rpm : 1230
Rated speed rpm	: 500 -	
guide sleeve	•	
travel mm	: 3.45	
Tolerance mm	: +- 0.25	101.70.5
Dated speed rom	: 1165	LOW IDLE
Rated speed rpm guide sleeve	, (10)	
travel mm	: 9.55	control lever
Tolerance mm		position degree : 76.0
· · · · · · · · · · · · · · · · · ·	·	tolerance degree : +- 4.0
ALTER AL PRIM 500-	TYON	Catting and A start I
GUIDE SLEEVE POSI	ITOM	Setting point w/out bumper spring

Rated speed rpm : 100

		+ Rated speed rpm	: < 220
RT mm min.	: > 8.00	†	
·		+ Check	. 00
esting:		+ speed 1/min	: > 80
estad anaad ann	, 700	+ Check	2/0
ated speed rpm	. 500	speed 1/min	: < 240
ck travel mm Lerance mm	· J.00	Ť	
terance mm	0.10	FUEL DELTHEDY C	UADACTEDICTICS
ted speed rpm	. 725	+ FUEL DELIVERY C	HARACIERISIICS
ited speed thii	. 323		
		Aneroid pressur	6
DRQUE CONTROL		hPa	• 1300
ated speed rpm	• 600	hPa Rated speed rpm	950
ick travel mm	13 30	Del. quantity	. , , , , ,
ick travel mm lerance mm	· + 0.05	cm3/1000 stroke	. 252 A
COLOTICE (IRI)	• • 0.07	+ Tolerance	3 . 230.0
ted speed nom	• 050	+ cm3/1000 stroke	S • 1 2 0
red speed rpm	. 7JU	+ UMS/TUUU STROKE	S : TT 2.0
ated speed rpm ack travel mm blerance mm	13.00	Check tolerance cm3/1000s.	
iterance mm	: +- 0.05	+ cm3/1000S.	: +- 5.0
-4	. 250	+ Spreed	
ated speed rpm	: /50	† Tolerance	
ick travel mm lerance mm	: 13.30	+ cm3/1000 stroke	s: 8.0
lerance mm	: +- 0.05	+ Check tolerance	!
		Check tolerance cm3/1000s.	: 12.0
ted speed rpm	: 900	+	
k travel mm	: 13.00	+	
ck travel mm Lerance mm	: +- 0.05	+ Aneroid pressur	
		+ hPa	: 1300
		Rated speed rpm	
ROID/ALTITUDE		- Del. quantity	
PENSATOR TEST		cm3/1000 stroke	s : 271.N
		+ Tolerance	
		+ cm3/1000 stroke	s : +- 2.N
TTING			
2170		+ Check tolerance cm3/1000s.	· +- 5 n
ted speed rom	• 500	+ Spreed	· · - J.U
ted speed rpm	• 1700		
ressure hPa	1300	+ Tolerance	
ick travel mm		+ cm3/1000 stroke	
lerance mm	: +- 0.05	+ Check tolerance	
A color of	. 500	+ cm3/1000s.	: 12.0
ted speed rpm	: 500	†	
essure hPa	: -	+	
		+ Aneroid pressur	'e
ASUREMENT		+ hPa	: -
		+ Rated speed rpm	
ited speed rpm	: 500	+ Del. quantity	
		+ cm3/1000 stroke	s: 146.0
essure hPa	: 850	+ Tolerance	
ck travel mm	: 2.45	+ cm3/1000 stroke	s : +- 1.0
erance mm	: +- 0.15	+ Check tolerance	
		+ cm3/1000s.	
essure hPa	: 550	Spreed	7.0
ck travel mm		Tolerance	
olerance mm	: +- 0.10	cm3/1000 stroke	s : 5.0
re ance man			
		Check tolerance	
			: 9.0
ert interlock		†	
to at a		†	
ed speed rpm	: > 100	+	

STARTING FUEL DELIVERY

Rated speed rpm : 100

Del. quantity cm3/1000 strokes : 269.0

Tolerance

cm3/1000 strokes : + 10.0

Check tolerance

cm3/1000s. : +- 14.0

LOW IDLE

Rated speed rpm : 300

Rack travel in mm : 5.00 : +- 0.10 Tolerance mm

Del. quantity

cm3/1000 strokes : 13.0

Tolerance

cm3/1000 strokes : +-3.0

Check tolerance cm3/1000s.

: +--6.0

Spreed

Tolerance

cm3/1000 strokes : 8.0

Check tolerance

cm3/1000s. : 12.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 10.06.97 Test oil : ISO 4113

Combination No. : 0 402 076 775

Injection pump

Pump designation : PES6P100A320LS3342 EP type number : 0 412 006 710

Governor

Governer design. : RSV415...1100P8A597

Governer no. : 0 421 833 463

Cust. part No. : 1824626091

Customer-spec. information Customer : NAVISTAR : DT-530 : 153.0 Motor Power KW

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet

40 temp. °C temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 417 413 076

Inlet press. bar : inlet press. bar : 2.8
Tolerance bar : +- 0.1

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

: 208.5 har Tolerance bar : +- 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter : 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0 Tolerance bar : +- 1.0

Prestroke mm : 3.00 Tolerance mm : + 0.05 Check tolerance mm : +- 0.10

Rack travel in mm : 10.50 Tolerance mm : +- 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300 Tolerance : +- 0.50

Check

tolerance °NW : +- 0.75

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 11.55

Tolerance mm : +- 0.05

Del. quantity cm3/1000 strokes : 104.5

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance

: +- 3.0 cm3/1000s.

Spreed

Tolerance cm3/1000 strokes : 8.0	+ Rated speed rpm : 1150 + Tolerance 1/min : +- 5 + Check
Check tolerance cm3/1000S. : 12.0	speed 1/min : +- 10
	rack travel mm : 4.00 Rated speed rpm : 1200 Tolerance 1/min : +- 5 Check
Rack travel in mm : 5.60 Tolerance mm : +- 0.10	speed 1/min : + 10
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	rack travel mm : 0.85 Tolerance mm : + 0.55 Rated speed rpm : 1300
	rack travel mm : 4.00 Rated speed rpm : 1205 Tolerance 1/min : +- 5
GUIDE SLEEVE POSITION	t Check speed 1/min : +- 10
control lever position degree : ~ 3 Rated speed rpm : 800	
Rack travel in mm : 0.50 Tolerance mm : +- 0.20	LOW IDLE
governor spring pre-tension	control lever position degree : 78.5 tolerance degree : +- 6.0
click setting x : 4.75	Setting point w/out bumper spring
FULL LOAD DELIVERY AT FULL LOAD STOP	Rated speed rpm : 100
Rated speed rpm : 1100 Aneroid pressure	CRT mm min. : > 19.00
hPa : 1200 Del. quantity	Testing:
cm3/1000 strokes : 104.5 Tolerance	Rated speed rpm : 415 rack travel mm : 5.60
cm3/1000 strokes : +- 1.0 Check tolerance	Tolerance mm : +- 0.10
cm3/1000S. ; +- 3.0 Spreed Tolerance	TORQUE CONTROL Rated speed rpm : 1100
cm3/1000 strokes : 8.0 Check tolerance	rack travel mm : 11.55 Tolerance mm : +- 0.05
cm3/1000s. : 12.0	Rated speed rpm : 800 + rack travel mm : 12.50 + Tolerance mm : +- 0.10
CONTROL LEVER	+ rack travel mm : 12.50
	+ rack travel mm : 12.50

Rated speed rpm : 800 Pressure hPa : 1200 rack travel mm : 12.55
Tolerance mm : +- 0.10

MEASUREMENT

Rated speed rpm : 800

435 Pressure hPa : rack travel mm : 11.60 Tolerance mm : + 0.20

ressure hPa : 250 rack travel mm : 10.05 Pressure hPa : +- 0.05 Tolerance mm

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa Rated speed rpm : 800 Del. quantity cm3/1000 strokes : 131.0

Tolerance

cm3/1000 strokes : +- 2.0

Check tolerance

cm3/1000s. : +- 4.0

Aneroid pressure

hPa Rated speed rpm : 500 Del. quantity

cm3/1000 strokes : 78.5

Tolerance

cm3/1000 strokes : +- 2.0

Check tolerance

cm3/1000s. : +- 4.0

STARTING FUEL DELIVERY

100 Rated speed rpm : rack travel mm : 20.50 : +- 0.50 Tolerance mm

Del. quantity

cm3/1000 strokes : 150.0

Tolerance

cm3/1000 strokes : +- 20.0

Check tolerance

cm3/1000s.: +- 25.0 LOW IDLE

Rack travel in mm : 5.60 Tolerance mm : +- 0.10

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition

: 09.06.97

Test oil

: ISO 4113

Combination No. : 0 402 076 819

Injection pump

Pump designation : PES6P120A720RS3352

EP type number : 0 412 026 780

Governor

Governer design. : RSV425...1100P2A599

: -9

Governer no.

: 0 421 833 606

Cust. part No. : RE500742

Customer-spec. information

Customer : DEERE

Motor

: 6081AF001

Power KW

: 187.0

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet

temp. °C

Tolerance °C : + 2.0

Overflow valve : 1 457 413 010

Inlet press. bar : 2.0

Test nozzle holde

assembly

: 1 688 901 101

Opening pressure

bar

: 208.5

Tolerance bar : +- 1.5

Test Lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter: 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar: 17.0 Tolerance bar : +- 1.0

Prestroke mm : 3.60 Tolerance mm : +- 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

Phasing : 0-60-120-180-240

: -300

Start of delivery mark

*NW after s.o.d. : 8.00 Tolerance : + 0.50

tolerance °NW : +- 0.75

Barrel no. : 1

Beginning of delivery differende

and maximum rack

travel : 14.00 Difference ° CS : 2.50

BASIC SETTING

Rated speed rpm : 1100

+	
Rack travel in mm : 12.45 Tolerance mm : +- 0.05	FULL LOAD DELIVERY AT FULL LOAD STOP
Del. quantity cm3/1000 strokes : 161.0	Rated speed rpm : 1100 Aneroid pressure hPa : 1600
Tolerance cm3/1000 strokes : +- 1.0	Del. quantity cm3/1000 strokes : 161.0 Tolerance
Check tolerance cm3/1000s. : + 3.0	cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 3.0
Spreed	Spreed Tolerance
Tolerance cm3/1000 strokes : 4.0	cm3/1000 strokes : 4.0 Check tolerance cm3/1000s. : 6.5
Check tolerance cm3/1000s. : 6.5	
	CONTROL LEVER
Rated speed rpm : 425	control lever position degree : 97.0
Rack travel in mm : 5.90 Tolerance mm : +- 0.10 Del. quantity	tolerance degree : +- 4.0 RATED SPEED
cm3/1000 strokes : 29.0 + Tolerance +	rack travel mm : 11.45 Rated speed rpm : 1145
cm3/1000 strokes : + 2.0 + Check tolerance	Tolerance 1/min : +- 5
cm3/1000s. : + 4.5 Spreed Tolerance	rack travel mm : 4.00 Rated speed rpm : 1205 Tolerance 1/min : +- 5
cm3/1000 strokes : 6.0 + Check tolerance +	rack travel mm : 0.85
cm3/1000s. : 8.0	Tolerance mm : +- 0.55 Rated speed rpm : 1350
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	rack travel mm : 4.00 Rated speed rpm : 1215 Tolerance 1/min : +- 15
GUIDE SLEEVE POSITION	
control lever	LOW IDLE
position degree : -3 Rated speed rpm : 800	control lever position degree : 75.0
Rack travel in mm: 0.50 + Tolerance mm: + 0.20 +	tolerance degree : +- 4.0 Setting point w/out bumper spring
governor spring pre-tension click setting x : 4.25	Rated speed rpm : 425 rack travel mm : 5.40 Tolerance mm : +- 0.10

Rated speed rpm : 100 Aneroid pressure 1600 hPa CRT mm min. : > 19.00 Rated speed rpm : 700 Del. quantity Testing: cm3/1000 strokes : 167.5 Tolerance 425 cm3/1000 strokes : +- 2.0Rated speed rpm : rack travel mm : 5.90 Check tolerance : +- 0.10 Tolerance mm cm3/1000s. 4.0 TORQUE CONTROL Aneroid pressure Rated speed rpm : 1100 hPa rack travel mm : 12.45 Rated speed rpm : 500 : +- 0.05 Tolerance mm Del. quantity cm3/1000 strokes : 71.0 700 Rated speed rpm : 700 rack travel mm : 12.80 Tolerance cm3/1000 strokes : +- 2.0Tolerance mm : +- 0.10 Check tolerance cm3/1000s. : +- 4.0 ANEROID/ALTITUDE COMPENSATOR TEST STARTING FUEL DELIVERY SETTING Rated speed rpm 100 21.00 rack travel mm : 500 Rated speed rpm : : +- 0.50 Tolerance mm 1600 Pressure hPa : Del. quantity cm3/1000 strokes : 105.0 Rated speed rpm : 500 Tolerance Pressure hPa _ cm3/1000 strokes : +- 20.08.80 rack travel mm Check tolerance cm3/1000s. Tolerance mm : +- 0.20 : +- 25.0 **MEASUREMENT** Rated speed rpm : 500 LOW IDLE 960 Pressure hPa rack travel mm 11.70 Rated speed rpm : 425 : +- 0.20 Tolerance mm Rack travel in mm : 5.90 Pressure hPa 475 Tolerance mm : +-0.10 9.80 rack travel mm Del. quantity : +- 0.05 cm3/1000 strokes : 29.0 Tolerance mm Tolerance cm3/1000 strokes : +- 2.0Start interlock Check tolerance : +-4.5 cm3/1000s. Rated speed rpm : > 100 Spreed Tolerance Check cm3/1000 strokes : 6.0 80 speed 1/min : > Check tolerance cm3/1000s. 8.0 FUEL DELIVERY CHARACTERISTICS

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 06.06.97 Test oil : ISO 4113

Combination No. : F 002 A0Z 063

Injection pump

Pump designation : PES4A95D320/3RS2927

EP type number : F 002 A10 017

Governor

Governer design. : RSV475...1100A2C943R

Governer no. : F 002 A20 244

Cust. part No. : 3931397

Customer—spec. information Customer : CDC Motor : 4BNA3.9 Power KW : 45.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C : 40
Tolerance °C : +- 2.0

Overflow valve : 2 417 413 093

Inlet press. bar : 2.0
Tolerance bar : +- 0.1

Test nozzle holde

assembly : 1 688 901 101

Opening pressure

bar : 208.5 Tolerance bar : +- 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 17.0 Tolerance bar : +- 1.0

Check

tolerance mm : +- 0.10

Rack travel in mm : 10.50 Tolerance mm : +- 1.50

Firing order : 1-3-4-2

Phasing : 0-90-180-270 Tolerance : +- 0.50

Check

tolerance °NW : +- 0.75

Start of delivery blocking

*NW after s.o.d. : 7.75 Tolerance : +- 0.50

Check

tolerance °NW : +- 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 8.20 Tolerance mm : +- 0.05

Del. quantity cm3/1000 strokes : 72.5	Aneroid pressure hPa : - Del. quantity
Tolerance - 1.0	cm3/1000 strokes : 72.5
Check tolerance	cm3/1000 strokes : +- 1.0 Check tolerance
cm3/1000s. : + 3.0	cm3/1000s. : +- 3.0 Spreed
Spreed -	Tolerance cm3/1000 strokes : 3.5
Tolerance - cm3/1000 strokes : 3.5 -	Check tolerance cm3/1000s. : 6.0
Check tolerance cm3/1000S. : 6.0 -	CONTROL LEUE
	CONTROL LEVER
Rated speed rpm : 475	control lever position degree : 93.0
Deal Annual in the Co.	tolerance degree : +- 4.0
Rack travel in mm : 4.60 - Tolerance mm : +- 0.10 -	RATED SPEED
Del. quantity	rack travel mm : 7.20
cm3/1000 strokes : 13.5 - Tolerance -	Rated speed rpm : 1155 Tolerance 1/min : +- 5
cm3/1000 strokes : +- 2.0	+
Check tolerance - cm3/1000s. : +- 4.5	+ rack travel mm : 4.00 + Rated speed rpm : 1190
cm3/1000s. : +- 4.5 Spreed	+ Rated speed rpm : 1190 + Tolerance 1/min : +- 5
Tolerance -	 -
cm3/1000 strokes : 3.5 - Check tolerance -	+ rack travel mm : 0.85 + Tolerance mm : +- 0.55
cm3/1000s. : 5.5	Rated speed rpm : 1300
	rack travel mm : 4.00
(B) SETTING OF INJECTION PUMP	Rated speed rpm : 1190
WITH GOVERNOR	Tolerance 1/min : +- 15
	+
GUIDE SLEEVE POSITION	
•	FOM IDLE
control lever	+
position degree : - 3 - Rated speed rpm : 800 -	control lever position degree : 71.0
•	tolerance degree : + 4.0
Rack travel in mm: 0.50 - Tolerance mm: +- 0.20 -	Control lover difference
Tolerance mm : +- 0.20 -	+ Control lever difference + Grad : 22.0
governor spring -	tolerance degree : +- 6.0
pre-tension - click setting x : 3.75 -	†
	+
FULL LOAD DELIVERY AT FULL LOAD STOP	+ Rated speed rpm : 475 + rack travel mm : 4.10
•	Tolerance mm : +- 0.10
Rated speed rpm : 1100 -	Rated speed rpm : 100
-	T water speed this . 100

CRT mm min. ; > 19.00 Testing: Rated speed rpm 475 rack travel mm 4.60 Tolerance mm : **←** 0.10 TORQUE CONTROL Rated speed rpm 1100 rack travel mm 8.20 Tolerance mm : + 0.05Rated speed rpm 600 9.20 rack travel mm Tolerance mm : +- 0.10 FUEL DELIVERY CHARACTERISTICS Aneroid pressure hPa Rated speed rpm 600 Del. quantity cm3/1000 strokes : 67.0 Tolerance cm3/1000 strokes : +-Check tolerance cm3/1000s.5.0 : +-STARTING FUEL DELIVERY Rated speed rpm : 100 rack travel mm : 20.50 Tolerance mm : + 0.50Del. quantity cm3/1000 strokes : 120.0 Tolerance cm3/1000 strokes : +- 10.0Check tolerance cm3/1000s. : +- 15.0 LOW IDLE Rated speed rpm : 475 Rack travel in mm : 4.60 Tolerance mm : +-0.10

Tolerance cm3/1000 strokes : +- 2.0 Check tolerance cm3/1000s. : +- 4.5 Spreed Tolerance cm3/1000 strokes : 3.5 Check tolerance cm3/1000s. : 5.5

End of test specification sneet

Del. quantity

cm3/1000 strokes :

13.5

BOSCH INJ. PUMP TEST SPECIFICATIONS Note remarks Refer to Service Info for test and adjustment instructions. See microcard(s) W400/... Edition : 09,06,97 : ISO 4113 Test oil Combination No. : 0 402 046 866 Injection pump Pump designation : PES6P120A720RS3346 : 0 412 026 778 EP type number Governor Governer design. : RQ300/1025PA1213 Governer no. : 0 421 801 783 Cust. part No. Customer-spec. information : IVECO-FIAT Customer : 8360.46.4649 Motor TEST BENCH REQUIREMENTS Inlet line : 2.4 Test oil inlet temp. °C Tolerance °C : 1 417 413 034 Overflow valve Inlet press. bar : 2.5 Test nozzle holde : 1 688 901 105 assembly Opening pressure 208.5 bar Tolerance bar : +- 1.5

: 1 680 750 089

8.0

3.0

REMARKS	
(A) INJECTION PUMP Set equal delivery per values	quant.
BEGINNING OF DEL.IV	/ERY
Test pressure bar Tolerance bar	: 26.0 : + 1.0
Prestroke mm Tolerance mm Check	: 3.55 : +- 0.05
tolerance mm	: +- 0.10
Rack travel in mm Tolerance mm	: 10.50 : +- 1.50
Firing order	: 1-5- 3- 6- 2- : 4
Phasing	: 0-60-120-180-240
Tolerance	: -300 : +- 0.50
Check tolerance °NW	: +- 0.75
BASIC SETTING	
Rated speed rpm	: 1025
Rack travel in mm Tolerance mm	: 11.90 : +- 0.05
Del. quantity cm3/1000 strokes	: 175.0
Tolerance cm3/1000 strokes	: +- 1.0
Check tolerance cm3/1000s.	: +- 4.0
Spreed	

x length mm : 600

B01

Test lines

Outside diameter :

x inside diameter :

Tolerance cm3/1000 strokes : 5.0	+ rack travel mm : 10.90 + Rated speed rpm : 1078
Check tolerance	Tolerance 1/min : + 8 Check
cm3/1000s. : 9.0	+ speed 1/min : +- 13
	Track travel mm : 4.00
Rated speed rpm : 300	+ Rated speed rpm : 1150 + Tolerance 1/min : +- 15 + Check
Rack travel in mm : 5.50 Tolerance mm : + 0.10	speed 1/min : +- 20
Del. quantity cm3/1000 strokes : 20.0	rack travel mm : 0.50 Tolerance mm : +- 0.50
Tolerance	Rated speed rpm : 1300
Check tolerance	† †
cm3/1000s. : +- 6.0 Spreed	+
Tolerance cm3/1000 strokes : 8.0	LOW IDLE
Check tolerance cm3/1000s. : 12.0	.l. + control lever
	position degree : 70.0 tolerance degree : +- 4.0
(B) SETTING OF INJECTION PUMP	+
WITH GOVERNOR	+ Setting point w/out bumper spring +
	Rated speed rpm : 200
GUIDE SLEEVE POSITION	CRT mm min. : > 7.00
control lever	Testing:
position degree : 97	Rated speed rpm : 300
Rated speed rpm : 550	rack travel mm : 5.50
Rack travel in mm : 14.30	† Tolerance mm : +- 0.10
Tolerance mm : + 0.80	+ rack travel mm : 2.00 + Rated speed rpm : 380
	Tolerance 1/min : +- 20
FULL LOAD DELIVERY AT FULL LOAD STOP	+
Rated speed rpm : 1025	TORQUE CONTROL
Aneroid pressure hPa : 900	+ Rated speed rpm : 1025 + rack travel mm : 11.90
Del. quantity cm3/1000 strokes : 175.0	Tolerance mm : +- 0.05
Tolerance	Rated speed rpm : 500
cm3/1000 strokes : +- 1.0 Check tolerance	rack travel mm : 11.95 Tolerance mm : +- 0.10
cm3/1000s. : +- 4.0	+ Toterance in : += 0.10
Spreed	Rated speed rpm : 1025
Tolerance cm3/1000 strokes : 5.0	+ rack travel mm : 12.35 + Tolerance mm : +- 0.05
Check tolerance cm3/1000s. : 9.0	+ + Rated speed rpm : 500
· //·	rack travel mm : 12.40
RATED SPEED	+ Tolerance mm : +- 0.10 +

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 900
rack travel mm : 11.90
Tolerance mm : + 0.05

Rated speed rpm : 500
Pressure hPa : rack travel mm : 9.60
Tolerance mm : +- 0.10

MEASUREMENT

Rated speed rpm : 500

Pressure hPa : 270 rack travel mm : 10.00 Tolerance mm : +-0.20

Pressure hPa : 500 rack travel mm : 11.30 Tolerance mm : +- 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa : 900 Pated speed rpm : 500

Del. quantity

cm3/1000 strokes: 168.0

Tolerance

cm3/1000 strokes : + 3.0

Check tolerance

cm3/1000s. : +- 6.0

Aneroid pressure

hPa : -Rated speed rpm : 500

Del. quantity

Tolerance

cm3/1000 strokes : 102.0

cm3/1000 strokes : +- 1.0

Check tolerance

cm3/1000s. : +- 4.0

STARTING FUEL DELIVERY

Rated speed rpm : 100 Del. quantity

cm3/1000 strokes : 90.0

Tolerance

cm3/1000 strokes : +- 15.0

Check tolerance

cm3/1000s. : +- 19.0

LOW IDLE

Rated speed rpm : 300

Rack travel in mm : 5.50
Tolerance mm : + 0.10
Del. quantity
cm3/1000 strokes : 20.0

Tolerance cm3/1000 strokes : +- 3.0

Check tolerance

cm3/1000S. : +- 6.0 Spreed

Tolerance

cm3/1000 strokes : 8.0

Check tolerance

cm3/1000s. : 12.0

Note remarks

Refer to Service Info for test and adjustment instructions.

See microcard(s) W400/...

: 09.06.97 Edition Test oil : ISO 4113

Combination No. : 0 402 046 872

Injection pump

Pump designation : PES6P120A320RS3337

EP type number : 0 412 026 770

Governor

Governer design. : RQV300...1250PA1246K

Governer no. : 0 421 815 480

Cust. part No. : CCEP 5155A 66-217

Customer-spec. information

Customer : RENAULT V.I.

: MIDR 06-02-26 U4 Motor

Power KW : 111.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C 40 : +- 2.0 Tolerance °C

Overflow valve : 2 417 413 084

Inlet press. bar : 2.5 Tolerance bar : +- 0.1

Overflow quantity

min. L/h : 135 Tolerance l/h: +- 10.0

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

208.5 bar Tolerance bar : +- 1.5 Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter: 2.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

restroke mm : 4.10
Tolerance mm : +- 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm : 11.00 Tolerance mm : +-0.50

Firing order : 1-5-3-6-2-

Phasing : 0-60-120-180-240

: -300

Tolerance : +- 0.50

Check

tolerance °NW : +- 0.75

Start of delivery mark

°NW after s.o.d. : 0.08

: +- 0.50 Tolerance

Check

tolerance °NW : +- 0.75

Barrel no. : 1

Beginning of delivery differende

betw. rack trav.

21.00

and maximum rack

11.00 travel Difference ° CS : 2.00

		Rated speed rpm : 300
COT TEDA DACITION		guide sleeve
CRT ZERO POSITION		travel mm : 1.31 Tolerance mm : +- 0.20
		T roterance nim : += 0.20
Rack travel in mm	: 10.60	Rated speed rpm : 900
olerance mm		guide sleeve
		travel mm : 6.50
		+ Tolerance mm : +- 0.25
BASIC SETTING		+
		Rated speed rpm : 530
ated speed rpm	: 1250	+ guide sleeve
•		† travel mm : 3.77
el. quantity		+ Tolerance mm : +- 0.25
m3/1000 strokes	: 142.0	1
		+ Rated speed rpm : 1580
olerance		+ guide sleeve
m3/1000 strokes	: +- 1.0	† travel mm : 13.50
		+ Tolerance mm : +- 0.50
heck tolerance		+
m3/1000s.	: +- 4.0	+
		GUIDE SLEEVE POSITION
preed		+
		+
olerance		+ control lever
n3/1000 strokes	: 5.0	- position degree : - 1
		+ Rated speed rpm : 1400
heck tolerance		+
m3/1000s.	: 9.0	+ Rack travel in mm : 10.50
		+ Tolerance mm : + 1.50
		+
and and a	700	FIRE LOAD DELTHERY OF THE
ated speed rpm	: 300	+ FULL LOAD DELIVERY AT FULL LOAD STO
ack travel in mm	: -5.80	+ Rated speed rpm : 1250
olerance mm	: +- 0.10	+ Aneroid pressure
el. quantity	. 24.0	+ hPa : -
m3/1000 strokes	: 26.0	+ Del. quantity + cm3/1000 strokes : 142.0
olerance m3/1000 strokes	: +- 2.0	
	· += 2.U	+ Tolerance
heck tolerance	: ÷- 5.0	+ cm3/1000 strokes : +- 1.0
m3/1000s.	; 	+ Check tolerance + cm3/1000s. : +- 4.0
oreed		1
olerance	: 8.0	+ Spreed
m3/1000 strokes	. 0.0	Tolerance
heck tolerance	. 12.0	+ cm3/1000 strokes : 5.0
m3/1000s.	: 12.0	+ Check tolerance
		+ cm3/1000s. : 9.0
		- the
) CETTING OF THE	ICCTION DUMP	
	JECTION PUMP	
	JECTION PUMP	CONTROL LEVER
	JECTION PUMP	CONTROL LEVER
ITH GOVERNOR		+
ITH GOVERNOR		control lever
ITH GOVERNOR UIDE SLEEVE TRAVE	EL	control lever position degree : 296.0
ITH GOVERNOR JIDE SLEEVE TRAVE		control lever
ITH GOVERNOR JIDE SLEEVE TRAVE ated speed rpm uide sleeve	EL : 1333	control lever position degree : 296.0 tolerance degree : +- 4.0
B) SETTING OF INJITH GOVERNOR UIDE SLEEVE TRAVE ated speed rpm uide sleeve ravel mm olerance mm	EL	control lever position degree : 296.0

Rated speed rpm : 1305 Tolerance 1/min : + 15 rack travel mm : -6.60 Rated speed rpm : 1400 Tolerance 1/min : +rack travel mm : -10.10Tolerance mm : +-0.50Rated speed rpm : 1550 LOW IDLE control lever position degree : 242.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 200 CRT mm min. : < -4.80Testing: 300 Rated speed rpm : -5.80 rack travel mm : : +- 0.10 Tolerance mm Rated speed rpm : 380 TORQUE CONTROL Rated speed rpm : 1250 Rated speed rpm : 750 rack travel mm : -1.65 Tolerance mm : + 0.10 Rated speed rpm : 350 rack travel mm : -2.55 : +- 0.20 Tolerance mm Start interlock Rated speed rpm : > 130 Rated speed rpm : < 245 Check speed 1/min : > 110 Check

255

FUEL DELIVERY CHARACTERISTICS Aneroid pressure Rated speed rpm : 750 Del. quantity cm3/1000 strokes : 102.0 Tolerance cm3/1000 strokes : +- 3.0 Check tolerance cm3/1000s. : +- 6.0 STARTING FUEL DELIVERY Rated speed rpm : 100 Del. quantity cm3/1000 strokes : 108.0 Tolerance cm3/1000 strokes : +- 15.0Check tolerance cm3/1000s. : +- 19.0 LOW IDLE Rated speed rpm : 300

Rack travel in mm : -5.80 Tolerance mm : \leftarrow 0.10 Del. quantity cm3/1000 strokes : 26.0 Tolerance cm3/1000 strokes : +- 2.0Check tolerance cm3/1000s. : +-5.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance : 12.0 cm3/1000s.

End of test specification sheet

speed 1/min : <

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 10.06.97 Test oil : ISO 4113

Combination No. : 0 402 646 739

Injection pump

Pump designation : PE6P120A320LS7904-1

EP type number : 0 412 626 964

Governor

Governer design. : RQ750PA1326 Governer no. : 0 421 801 815

Cust. part No. : 04222 3926 KY

Customer-spec. information

Customer : KHD

Motor : BF6M1015/C Power KW : 239.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C : 40 Tolerance °C : + 2.0

Overflow valve : 2 417 413 033

Inlet press. bar : 2.5 Tolerance bar : + 0.1

Overflow quantity

min. l/h : 200 Tolerance l/h : +- 20.0

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar : 208.5 Tolerance bar : +- 1.5 Test Lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 3.65
Tolerance mm : + 0.05
Check

tolerance mm : +- 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 6-3-5-2-4-

: 1

Phasing : 0-60-120-180-240

: -300

Tolerance : \leftarrow 0.50

Check

tolerance °NW : +- 0.75

Start of delivery blocking

*NW after s.o.d. : 300.00 Tolerance : +- 0.50

Check

tolerance "NW : + 0.75

Barrel no. : 6

BASIC SETTING

Rated speed rpm : 700	_	Rated speed rpm guide sleeve	
Rack travel in mm : 12.40 Tolerance mm : +- 0.05		travel mm Tolerance mm	: 1.00 : +- 0.10
Del. quantity cm3/1000 strokes : 365.0		Rated speed rpm guide sleeve travel mm	: 560 : 3.24
Tolerance cm3/1000 strokes : +- 1.0	 	Tolerance mm Rated speed rpm	: + 0.10 : 1154
Check tolerance cm3/1000s. : +- 4.0	<u>†</u>	guide sleeve travel mm Tolerance mm	: 12.00 : + 0.10
Spreed	I	Rated speed rpm guide sleeve	: 1230
Tolerance cm3/1000 strokes : 5.0	+	travel mm Tolerance mm	: 13.50 : +- 0.50
Check tolerance cm3/1000S. : 9.0	‡	FULL LOAD DELIVER	Y AT FULL LOAD STOP
		Rated speed rpm Aneroid pressure	: 700
Rated speed rpm : 300 Del. quantity	‡	hPa Del. quantity	: -
cm3/1000 strokes : 20.0 Tolerance	+	cm3/1000 strokes Tolerance	: 365.0
<pre>cm3/1000 strokes : +- 3.0 Check tolerance</pre>	+	cm3/1000 strokes Check tolerance	: +- 1.0
cm3/1000s. : +- 6.0 Spreed	‡	cm3/1000s. Spreed	: +- 4.0
Tolerance cm3/1000 strokes : 8.0	‡	Tolerance cm3/1000 strokes	: 5.0
Check tolerance cm3/1000s. : 12.0	†	Check tolerance cm3/1000s.	: 9.0
(B) SETTING OF INJECTION PUM	P +		
WITH GOVERNOR	‡	CONTROL LEVER	
GUIDE SLEEVE TRAVEL		control lever position degree tolerance degree	
Rated speed rpm : 745 guide sleeve	‡	RATED SPEED	
travel mm : 4.54 Tolerance mm : +- 0.15		rack travel mm	: 0.50
Rated speed rpm : 300	+	Tolerance mm Rated speed rpm	: +- 0.50 : 900
guide sleeve travel mm : 1.24	‡	ASSEMBLY GOVERNOR	SETTING
Tolerance mm : +- 0.20		Rated speed rpm	
Rated speed rpm : 860 guide sleeve	<u> </u>	rack travel mm	
travel mm : 5.59 Tolerance mm : +- 0.10		Rated speed rpm Tolerance 1/min	: 780 : +- 4
209	•		

rack travel mm rack travel mm Tolerance mm		+ rack travel mm : 0.50 + Tolerance mm : + 0.50
Rated speed rpm		LOW IDLE
Rated speed rpm rack travel mm	: 11.40	control lever position degree : 62.0 tolerance degree : +- 4.0
Rated speed rpm Tolerance 1/min rack travel mm	: +- 4	TORQUE CONTROL
rack travel mm Tolerance mm	: 0.50 : + 0.50	Rated speed rpm : 700 rack travel mm : 12.40 Tolerance mm : +- 0.05
Rated speed rpm rack travel mm		Start interlock
Rated speed rpm Tolerance 1/min rack travel mm	: +- 4	Rated speed rpm : > 100 Rated speed rpm : < 560 Check
rack travel mm Tolerance mm Rated speed rpm	: ← 0.50	speed 1/min : > 80 Check speed 1/min : < 580
Rated speed rpm rack travel mm		CTARTING FIGURE ASILTMENT
Rated speed rpm Tolerance 1/min rack travel mm	: +- 4	+ STARTING FUEL DELIVERY Rated speed rpm : 100 rack travel mm : 20.25
rack travel mm Tolerance mm		Tolerance mm : +- 0.75 Del. quantity cm3/1000 strokes : 210.0 Tolerance
Rated speed rpm rack travel mm		+ cm3/1000 strokes : +- 20.0 + Check tolerance + cm3/1000s. : +- 24.0
Rated speed rpm Tolerance 1/min rack travel mm	: +- 4	100.7015
rack travel mm Tolerance mm Rated speed rpm	: 0.50 : +- 0.50 : 900	LOW IDLE Rated speed rpm : 300 Del. quantity cm3/1000 strokes : 20.0
Rated speed rpm rack travel mm		Tolerance cm3/1000 strokes : +- 3.0 Check tolerance
Rated speed rpm Tolerance 1/min rack travel mm	; +- 4	- cm3/1000s. : +- 6.0 - Spreed - Tolerance - cm3/1000 strokes : 8.0

cm3/1000s.	;	12.0	

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 05.06.97 Test oil : ISO 4113

Combination No. : 0 402 646 785

Injection pump

Fump designation : PESP12DA320LS7869 EP type number : 0 412 626 887

Governor

Governer design. : RQV300...1050PA1078K

Governer no. : 0 421 815 359

Cust. part No. : 9275445

Customer-spec. information
Customer : LIEBHERR
Motor : D 9406 TI
Power KW : 300.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40 Tolerance °C : + 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 2.0
Tolerance bar : +- 0.1

Overflow quantity

min. l/h : 165 Tolerance l/h : + 20.0

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar : 208.5 Tolerance bar : + 1.5 Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm : 3.65
Tolerance mm : +- 0.05
Check

Lneck

tolerance mm : +- 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-6-3-5-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : +- 0.50

Check

tolerance °NW : +- 0.75

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 12.30 Tolerance mm : +- 0.05

Del. quantity

cm3/1000 strokes : 291.0

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance	+	
cm3/1000s.	: +- 4.0 ¹	Rated speed rpm : 450
	1	guide sleeve
Spreed		travel mm : 3.66
op. 664	<u>1</u>	Tolerance mm : +- 0.25
Tolerance	1	Total differ min . 1 0.25
cm3/1000 strokes	· 50 T	Rated speed rpm : 1320
CIID/ TOCO SCI ORES	, ,,,,	
Chook talonama		guide sleeve
Check tolerance	. 00	travel mm : 13.50
cm3/1000s.	: 9.0 +	Tolerance mm : + 0.50
	t	
	700	GUIDE SLEEVE POSITION
Rated speed rpm	: 300 +	
	<u> </u>	
Rack travel in ma		control lever
Tolerance mm	: +- 0.10 +	position degree : - 1
Del. quantity	-	Rated speed rpm : 1185
cm3/1000 strokes	: 25.0	
Tolerance	+	Rack travel in mm: 10.80
cm3/1000 strokes	: 3.0 +	Tolerance mm : +- 1.30
Check tolerance	+	•
cm3/1000S.	: +- 6.0 +	
Spreed	+	FULL LOAD DELIVERY AT FULL LOAD STOP
Tolerance	+	•
cm3/1000 strokes		Rated speed rpm : 1050
Check tolerance		Aneroid pressure
cm3/1000s.	: 10.0 +	hPa : 1550
	+	Del. quantity
	+	cm3/1000 strokes : 291.0
(B) SETTING OF IN	NJECTION PUMP +	Tolerance
WITH GOVERNOR	+	cm3/1000 strokes : +- 1.0
	+	Check tolerance
	+	cm3/1000s. : +- 4.0
GUIDE SLEEVE TRAV	/EL +	Spreed
	+	Tolerance
Rated speed rpm	: 1117 +	cm3/1000 strokes : 5.0
guide sleeve	+	Check tolerance
travel mm	: 10.38	cm3/1000s. : 9.0
Tolerance mm	: + 0.25 +	•
	+	
Rated speed rpm	: 300 +	
guide sleeve	+	· CONTROL LEVER
travel mm	: 1.69	
Tolerance mm	: +- 0.25 }	control lever
	+	position degree : 121.0
Rated speed rpm	: 746 +	tolerance degree : +- 4.0
guide sleeve	+	•
travel mm	: 6.20 	RATED SPEED
Tolerance mm	: +- 0.25 	rack travel mm : 11.30
	+	Rated speed rpm : 1110
Rated speed rpm	: 353 	Tolerance 1/min : + 5
guide sleeve	1	
travel mm	: 2.45	rack travel mm : 4.00
Tolerance mm		Rated speed rpm : 1200
	 	Tolerance 1/min : + 15
Rated speed rpm	: 403	•
guide sleeve	1	rack travel mm : 0.50
travel mm	: 3.18	Tolerance mm : ← 0.50
Tolerance mm		Rated speed rpm : 1300
		Transport that the second seco

Tolerance 1/min : +- 15	Rated speed rpm : 1050 Pressure hPa : - rack travel mm : 9.10 Tolerance mm : +- 0.20
LOW IDLE	MEASUREMENT
control lever position degree : 70.0 tolerance degree : +- 4.0	Rated speed rpm : 1050 Pressure hPa : 670 rack travel mm : 11.00 Tolerance mm : + 0.05
Setting point w/out bumper spring	Pressure hPa : 600
Rated speed rpm : 200	rack travel mm : 10.50 Tolerance mm : +- 0.20
CRT mm min. :> 6.50	
Testing:	FUEL DELIVERY CHARACTERISTICS
Rated speed rpm : 300 rack travel mm : 5.00 Tolerance mm : + 0.10 Rated speed rpm : 400	Aneroid pressure hPa : 1550 Rated speed rpm : 500 Del. quantity
TORQUE CONTROL Rated speed rpm : 1050 rack travel mm : 12.30 Tolerance mm : + 0.05	cm3/1000 strokes : 288.0 Tolerance cm3/1000 strokes : +- 3.0 Check tolerance cm3/1000s. : +- 6.0
Rated speed rpm : 500 rack travel mm : 10.10 Tolerance mm : + 0.10 Rated speed rpm : 800 rack travel mm : 11.60	Aneroid pressure hPa : 1550 Rated speed rpm : 800 Del. quantity cm3/1000 strokes : 301.0
Tolerance mm : + 0.10 Rated speed rpm : 950 rack travel mm : 12.20 Tolerance mm : + 0.10	Tolerance cm3/1000 strokes : +- 3.0 Check tolerance cm3/1000S. : +- 6.0
Rated speed rpm : 600 rack travel mm : 10.20 Tolerance mm : + 0.10	Aneroid pressure hPa : - Rated speed rpm : 550 Del. quantity
ANEROID/ALTITUDE COMPENSATOR TEST	<pre>cm3/1000 strokes : 245.0 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance</pre>
SETTING	cm3/1000s. : +- 4.0 Spreed
Rated speed rpm : 1050 Pressure hPa : 1550	Tolerance cm3/1000 strokes : 8.0 Check tolerance
Pressure hPa : 1550 + rack travel mm : 12.30 + Tolerance mm : + 0.05	cm3/1000S. : 12.0

STARTING FUEL DELIVERY

Set starting CRT at K-cam.

Rated speed rpm : 100
rack travel mm : 9.90
Tolerance mm : +- 0.30
Del. quantity
cm3/1000 strokes : 185.0
Tolerance
cm3/1000 strokes : +- 10.0

cm3/1000 strokes : +- 10 Check tolerance

cm3/1000s. : +- 14.0

LOW IDLE

Rated speed rpm : 300

Rack travel in mm: 5.00
Tolerance mm: +- 0.10
Del. quantity
cm3/1000 strokes: 25.0
Tolerance
cm3/1000 strokes: +- 3.0
Check tolerance
cm3/1606S: +- 5.0

Spreed Tolerance

cm3/1000 strokes : 6.0

Check tolerance

cm3/1000s. : 10.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 05,06,97 Test oil : ISO 4113

Combination No. : 0 402 646 785A

Injection pump

Pump designation : PE6P120A320LS7869 EP type number : 0 412 626 887

Governor

Governer design. : RQV300...1050PA1078K

Governer no. : 0 421 815 359

Cust. part No. : 9275445

Customer-spec. information Customer : LIEBHERR Motor : D 9406 TI

Power KW : 300.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C 40 Tolerance °C : +- 2.0

: 1 417 413 047 Overflow valve

Inlet press. bar : 2.0 Tolerance bar : +- 0.1

Overflow quantity

min. L/h : 165 Tolerance l/h: \leftarrow 20.0

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

: 208.5 bar Tolerance bar : +- 1.5 Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0

x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 3.65 Tolerance mm : +- 0.05

Check

tolerance mm : \leftarrow 0.10

Rack travel in mm : 10.50

Tolerance mm : +- 1.50

Firing order : 1-6-3-5-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : +- 0.50

Check

tolerance °NW : +- 0.75

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 12.30 Tolerance mm : +- 0.05

Del. quantity

cm3/1000 strakes : 291.0

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance cm3/1000S. : +- 4.0	Rated speed rpm : 450 guide sleeve
Spreed	travel mm : 3.66 Tolerance mm : +- 0.25
Tolerance cm3/1000 strokes : 5.0	Rated speed rpm : 1320 guide sleeve
Check tolerance cm3/1000S, : 9.0	travel mm : 13.50 Tolerance mm : +- 0.50
Rated speed rpm : 300	GUIDE SLEEVE POSITION
Rack travel in mm: 5.00	control lever
Tolerance mm : +- 0.10 Del. quantity	position degree : - 1 Rated speed rpm : 1185
cm3/1000 strokes : 25.0	Rack travel in mm : 11.00
cm3/1000 strokes : +- 3.0 Check tolerance	Tolerance mm : +- 1.30
cm3/1000S. : + 6.0 + Spreed	FULL LOAD DELIVERY AT FULL LOAD STOP
Tolerance + cm3/1000 strokes : 6.0 +	Rated speed rpm : 1050
Check tolerance cm3/1000s. : 10.0	Aneroid pressure hPa : 1550
	Del. quantity cm3/1000 strokes : 291.0
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	Tolerance cm3/1000 strokes : - 1.0
GUIDE SLEEVE TRAVEL +	Check tolerance cm3/1000S. : +- 4.0 Spreed
}	Tolerance
Rated speed rpm : 1117 guide sleeve +	cm3/1000 strokes : 5.0 Check tolerance
travel mm : 10.38 + Tolerance mm : + 0.25 +	cm3/1000s. : 9.0
Rated speed rpm : 300 + guide sleeve +	CONTROL LEVER
travel mm : 1.69 +	
Tolerance mm : + 0.25	control lever position degree : 121.0
Rated speed rpm : 746 + guide sleeve +	tolerance degree : +- 4.0
travel mm : 6.20 + Tolerance mm : + 0.25	RATED SPEED rack travel mm : 11.00
+	Rated speed rpm : 1105
Rated speed rpm : 353 + guide sleeve +	Tolerance 1/min : +- 5
travel mm : 2.45 + Tolerance mm : +- 0.25 +	rack travel mm : 4.00 Rated speed rpm : 1200
Rated speed rpm : 403 +	Tolerance 1/min : +- 15
guide sleeve +	rack travel mm : 0.50
travel mm : 3.18 + Tolerance mm : +- 0.25 +	Tolerance mm : +- 0.50 Rated speed rpm : 1300

Tolerance 1/min : +- 15	Rated speed rpm : 550 Pressure hPa : - rack travel mm : 9.10 Tolerance mm : +- 0.20
LOW IDLE	- MEASUREMENT
control lever	- Rated speed rpm : 1050
position degree : 70.0 - tolerance degree : +- 4.0 -	- Pressure hPa : 670 - rack travel mm : 11.00 - Tolerance mm : +- 0.05
Setting point w/out bumper spring	- Pressure hPa : 600
Rated speed rpm : 200	rack travel mm : 10.50 Tolerance mm : +- 0.20
CRT mm min. : > 6.50	
Testing:	Start interlock
Rated speed rpm : 300 - rack travel mm : 5.00 - Tolerance mm : +- 0.10 -	Rated speed rpm : > 100 Rated speed rpm : < 220
Rated speed rpm : 400	- Check - speed 1/min :> 80 - Check
TORQUE CONTROL Rated speed rpm : 1050 rack travel mm : 12.30 Tolerance mm : + 0.05	speed 1/min : < 240 FUEL DELIVERY CHARACTERISTICS
Rated speed rpm : 500 - rack travel mm : 10.10 - Tolerance mm : + 0.10 -	- Aneroid pressure - hPa : 1550 - Rated speed rpm : 500 - Del. quantity
Rated speed rpm : 800 - rack travel mm : 11.60 - Tolerance mm : + 0.10 -	- cm3/1000 strokes : 288.0 - Tolerance - cm3/1000 strokes : +- 3.0
Rated speed rpm : 950 - rack travel mm : 12.20 - Tolerance mm : + 0.10	- Check tolerance - cm3/1000s. : +- 6.0
Rated speed rpm : 950 rack travel mm : 12.20 Tolerance mm : + 0.10 Rated speed rpm : 600 rack travel mm : 10.20 Tolerance mm : + 0.10	
rack travel mm : 12.20 - Tolerance mm : + 0.10 - Rated speed rpm : 600 - rack travel mm : 10.20 -	Check tolerance cm3/1000s. : +- 6.0 Aneroid pressure hPa : 1550 Rated speed rpm : 800 Del. quantity
rack travel mm : 12.20 Tolerance mm : + 0.10 Rated speed rpm : 600 rack travel mm : 10.20 Tolerance mm : + 0.10 ANEROID/ALTITUDE	Check tolerance cm3/1000s. : +- 6.0 Aneroid pressure hPa : 1550 Rated speed rpm : 800 Del. quantity cm3/1000 strokes : 301.0 Tolerance cm3/1000 strokes : +- 3.0 Check tolerance cm3/1000s. : +- 6.0
rack travel mm : 12.20 Tolerance mm : + 0.10 Rated speed rpm : 600 rack travel mm : 10.20 Tolerance mm : + 0.10 ANEROID/ALTITUDE COMPENSATOR TEST	Check tolerance cm3/1000s. : +- 6.0 Aneroid pressure hPa : 1550 Rated speed rpm : 800 Del. quantity cm3/1000 strokes : 301.0 Tolerance cm3/1000 strokes : +- 3.0 Check tolerance

Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0

STARTING FUEL DELIVERY

Set starting CRT at K-cam.

Rated speed rpm : 100
rack travel mm : 9.90
Tolerance mm : + 0.20
Del. quantity
cm3/1000 strokes : 185.0
Tolerance
cm3/1000 strokes : +- 10.0
Check tolerance
cm3/1000s. : +- 14.0

LOW IDLE

Rated speed rpm 300 Rack travel in mm: 5.00 Tolerance mm 0.10 Del. quantity cm3/1000 strokes : 25.0 Tolerance cm3/1000 strokes 3.0 Check tolerance cm3/1000s. 6.0 Spreed Tolerance cm3/1000 strokes 6.0 Check tolerance cm3/1000s. 10.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition

: 10.06.97

Test oil

: ISO 4113

Combination No. : 0 402 648 702

Injection pump

Pump designation : PE8P12OA320LS7875

EP type number : 0 412 628 881

Governor

Governer design. : RQV250...1150PA1346

Governer no. : 0 421 814 193

Cust. part No. :

Customer-spec. information Customer : DHI : DV15T Motor Power KW : 265.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C Tolerance °C : +- 2.0

: 1 417 413 047 Overflow valve

Inlet press. bar : Tolerance bar : +- 0.1

Overflow quantity

: 125 min. L/h Tolerance l/h: +- 20.0

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

208.5 bar Tolerance bar : +- 1.5 Test lines : 1 680 750 089

Outside diameter : 8.0

3.0 x inside diameter :

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

: 5.20 Prestroke mm : +- 0.05 Tolerance mm

Check

tolerance mm : + 0.10

Rack travel in mm : 16.00 Tolerance mm : +- 1.50

Firing order : 8-7-2-6-3 : - 5- 4- 1

Phasing : 0-45-90-135-180 : -225-270-315

Tolerance : +- 0.50

Check

: +- 0.75 tolerance °NW

Start of delivery mark

: +- 0.50 Tolerance

Check

tolerance *NW : +- 0.75

Barrel no. : 8

BASIC SETTING

Rated speed rpm : 1150

Rack travel in mm : 13.80 Tolerance mm : +- 0.05

	+ guide sleeve
Del. quantity cm3/1000 strokes : 222.0	† travel mm : 4.65
	Tolerance mm : +- 0.25
Tolerance cm3/1000 strokes : +- 1.0	+ Rated speed rpm : 1390 + guide sleeve
	+ travel mm : 11.50
Check tolerance cm3/1000S. : +- 4.0	+ Tolerance mm : +- 0.50
	GUZDE OLEFUE DOCUMENT
Spreed	GUIDE SLEEVE POSITION
Tolerance cm3/1000 strokes : 7.0	t control lever
	position degree : - 1
Check tolerance cm3/1000s. : 10.0	Rated speed rpm : 1227
	Rack travel in mm: 12.80
	+ Tolerance mm : +- 1.30
Rated speed rpm : 250	
Rack travel in mm : 5.60	FULL LOAD DELIVERY AT FULL LOAD STOP
Tolerance mm : +- 0.10	Rated speed rpm : 1150
Del. quantity	+ Aneroid pressure
cm3/1000 strokes : 20.0	+ hPa : -
Tolerance cm3/1000 strokes : +- 3.0	+ Del. quantity + cm3/1000 strokes : 222.0
Check tolerance	+ Tolerance
cm3/1000s. : + 6.0	+ cm3/1000 strokes : +- 1.0
Spreed	+ Check tolerance
Tolerance	$+ \text{ cm}^3/1000\text{s}. : + 4.0$
cm3/1000 strokes : 5.0 Check tolerance	+ Spreed + Tolerance
cm3/1000s. : 8.0	+ cm3/1000 strokes : 7.0
	+ Check tolerance
	+ cm3/1000s. : 10.0
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	İ
WITH GOVERNOR	
GUIDE SLEEVE TRAVEL	CONTROL LEVER
GOIDE SPEECE LUMNER	t control lever
Rated speed rpm : 1207	position degree : 58.0
guide sleeve	+ tolerance degree : +- 4.0
travel mm : 8.92	†
Tolerance mm : +- 0.15	control lever + position degree : 122.0
Rated speed rpm : 250	tolerance degree : +- 4.0
guide sleeve	+
travel mm : 1.31	+ RATED SPEED
Tolerance mm : +- 0.20	rack travel mm : 12.80 Rated speed rpm : 1195
Rated speed rpm : 1185	+ Rated speed rpm : 1195 + Tolerance 1/min : +- 5
guide sleeve	+
travel mm : 8.60	+ rack travel mm : 4.00
Tolerance mm : +- 0.25	+ Rated speed rpm : 1295 + Tolerance 1/min : +- 15
Rated speed rpm : 640	+ Tolerance 1/min : +- 15
	rack travel mm : 0.50

Tolerance mm Rated speed rpm	: + 0.50 : 1400
LOW IDLE	
control lever position degree tolerance degree	: 85.0 : +- 4.0
control lever position degree tolerance degree	: 21.0 : + 4.0
Setting point w/o	out bumper spring
Rated speed rpm	: 150
CRT mm min.	: > 7.30
Testing:	
Rated speed rpm rack travel mm Tolerance mm	: 250 : 5.60 : + 0.10
Rated speed rpm	: 300
TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm	: 1150 : 13.80 : + 0.05
Rated speed rpm rack travel mm Tolerance mm	: 650 : 13.80 : + 0.10
ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 500 : 1500 : 13.80 : + 0.05
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 500 : - : 8.10 : +- 0.20
ME A OUD FACE IT	

Rated speed rpm	: 500
Pressure hPa rack travel mm Tolerance mm	: 350 : 10.00 : + 0.20
Pressure hPa rack travel mm Tolerance mm	: 735 : 12.10 : + 0.05
Start interlock	
Rated speed rpm Rated speed rpm	: > 165 : < 190
Check speed 1/min Check	: > 155
speed 1/min	: < 210
FUEL DELIVERY CHA	RACTERISTICS
Aneroid pressure hPa Rated speed rpm	: -
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes	: - : 650
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes	: - : 650
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance	: - : 650 : 241.0
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Aneroid pressure hPa Rated speed rpm	: - 650 : 241.0 : + 3.0
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes	: - : 650 : 241.0 : + 3.0 : + 6.0
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Aneroid pressure hPa Rated speed rpm Del. quantity	:

STARTING FUEL DELIVERY

Rated speed rpm	:	100
Del. quantity cm3/1000 strokes	:	193.0
Tolerance cm3/1000 strokes	: +-	- 20.0
Check tolerance		
cm3/1000s.	. +-	- 24.0

MEASUREMENT

LOW IDLE

Rated speed rpm	:	250	
Rack travel in mm Tolerance mm Del. quantity	*	5.60 0.10	
744556	•	20.0	
Tolerance			
cm3/1000 strokes	: +-	3.0	
Check tolerance			
cm3/1000S.	: +-	6.0	
Spreed			
Tolerance			
cm3/1000 strokes	:	5.0	
Check tolerance	-	- · •	
cm3/1000S.	:	8.0	
	-		

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 04,06,97 Edition : ISO 4113 Test oil

Combination No. : 0 402 648 703

Injection pump

Pump designation : PE8P120A320LS7880 EP type number : 0 412 628 889

Governor

Governer design. : RQV350...1050PA1352

Governer no. : 0 421 814 197

Cust. part No. : 0270747202

Customer-spec. information Customer : MB-NFZ

Motor : OM442 LA euromot

Power KW : 405.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C Tolerance °C 2.0

: 1 417 413 077 Overflow valve

Inlet press. bar : 2.0 Tolerance bar : + 0.1

Tolerance l/h: +- 10.0

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

: 208.5 bar : +- 1.5 Tolerance bar

: 1 680 750 075 Test lines

Outside diameter : 8.0

x inside diameter: 3.0

x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : Tolerance bar : + 1.0

: 4.75 Prestroke mm : +- 0.05 Tolerance mm

Check

tolerance mm : +- 0.10

Rack travel in mm : 20.50

Tolerance mm : + 0.50

Firing order : 8-7-2-6-3 :-5-4-1

Phasing : 0-45-90-135-180

: -225-270-315 Tolerance : + 0.50

Check

tolerance °NW : +- 0.75

Start of delivery mark

: +- 0.10 Tolerance

Check

tolerance °NW : +- 0.75

Barrel no. : 8

BASIC SETTING

Rated speed rpm : 1050

	1
Rack travel in mm : 15.00	Rated speed rpm : 580
Tolerance mm : +- 0.05	+ guide sleeve
Del. quantity	travel mm : 3.62 Tolerance mm : + 0.25
cm3/1000 strokes : 282.0	Toterance min . 1 0.25
	Rated speed rpm : 1204
Tolerance	+ guide sleeve
cm3/1000 strokes : + 1.0	+ travel mm : 10.00
Charle de Langue	+ Tolerance mm : +- 0.25
Check tolerance cm3/1000s. : +- 4.0	Rated speed rpm : 1300
(1137 10003	+ guide steeve
Spreed	+ travel mm : 11.50
	+ Tolerance mm : +- 0.50
Tolerance	†
cm3/1000 strokes : 6.0	CHINE SLEENE DOCUTION
Check tolerance	+ GUIDE SLEEVE POSITION
cm3/1000s. : 9.0	
	+ control lever
	<pre>→ position degree : - 1</pre>
750	+ Rated speed rpm : 1154
Rated speed rpm : 350	+ Rack travel in mm : 14.00
Rack travel in mm : 5.70	+ Tolerance mm : +- 1.30
Tolerance mm : + 0.10	+
Del. quantity	<u> </u>
cm3/1000 strokes : 19.0	FULL LOAD DELIVERY AT FULL LOAD STOP
Tolerance	1050
cm3/1000 strokes : +- 3.0	+ Rated speed rpm : 1050
Check tolerance cm3/1000s. : +- 6.0	+ Aneroid pressure + hPa : 1300
Spreed	+ Del. quantity
Tolerance	+ cm3/1000 strokes : 282.0
cm3/1000 strokes : 6.0	+ Tolerance
Check tolerance	+ cm3/1000 strokes : +- 1.0
cm3/1000s. : 10.0	+ Check tolerance + cm3/1000S. : +- 4.0
	+ Spreed : +- 4.0
(B) SETTING OF INJECTION PUMP	+ Tolerance
WITH GOVERNOR	- cm3/1000 strokes : 6.0
	+ Check tolerance
CHARE OF TRAVEL	+ cm3/1000s. : 9.0
GUIDE SLEEVE TRAVEL	Ī
Rated speed rpm : 1110	
guide sleeve	+ CONTROL LEVER
travel mm : 8.10	+
Tolerance mm : +- 0.15	+ control lever
Rated speed rpm : 350	+ position degree : 119.0
Rated speed rpm : 350 guide sleeve	+ tolerance degree : +- 4.0
travel mm : 1.48	T RATED SPEED
Tolerance mm : +- 0.20	rack travel mm : 14.00
	Rated speed rpm : 1098
Rated speed rpm : 900	+ Tolerance 1/min : +- 8
guide sleeve travel mm : 5.69	+ rack travel mm : 4.00
Tolerance mm : +- 0.25	+ Rated speed rpm : 1180
TOTALISE INII	Marca speed (piii + 1100

Tolerance 1/min	: +- 15	+	
rack travel mm Tolerance mm Rated speed rpm	: 0.75 : +- 0.75 : 1250	Start interlock Rated speed rpm	: > 210
		Rated speed rpm Check	
LOW IDLE		speed 1/min Check	: > 190
control lever		speed 1/min	: < 290
position degree tolerance degree		FUEL DELIVERY CHA	ARACTERISTICS
Setting point w/o	ut bumper spring	Aneroid pressure	: 1300
Rated speed rpm	: 250	Rated speed rpm Del. quantity	
CRT mm min.	: > 7.50	cm3/1000 strokes Tolerance	
Testing:		cm3/1000 strokes Check tolerance	
Rated speed rpm rack travel mm Tolerance mm	: 350 : 5.70 : +- 0.10	cm3/1000s. Spreed Tolerance	: +- 5.0
Rated speed rpm	: 400	cm3/1000 strokes Check tolerance cm3/1000s.	: 8.0 : 12.0
TORQUE CONTROL			
Rated speed rpm rack travel mm Tolerance mm	: 1050 : 15.00 : +- 0.05	Aneroid pressure hPa Rated speed rpm	: – : 500
Rated speed rpm rack travel mm	: 600 : 15.00	Del. quantity cm3/1000 strokes Tolerance	: 132.0
Tolerance mm	: +- 0.05	cm3/1000 strokes Check tolerance	: +- 1.0
ANEROID/ALTITUDE		cm3/1000s. Spreed	: +- 4.0
COMPENSATOR TEST		Tolerance cm3/1000 strokes Check tolerance	: 8.0
SETTING		cm3/1000s.	: 12.0
Rated speed rpm Pressure hPa	: 500 : -	REDUCED QUANTITY	
MEASUREMENT		Aneroid pressure	: 1300
Pressure hPa rack travel mm Tolerance mm	: 500 : 1.40 : + 0.05	Rated speed rpm Del. quantity cm3/1000 strokes	: 1050
Pressure hPa	: 1000	Tolerance cm3/1000 strokes	: +- 2.0
rack travel mm Tolerance mm	: 6.00 : +- 0.20	Check tolerance cm3/1000s.	: +- 5.0

STARTING FUEL DELIVERY

Rated speed rpm 100

Del. quantity cm3/1000 strokes : 280.0

Tolerance

cm3/1000 strokes : +- 10.0

Check tolerance cm3/1000s. : + 14.0

LOW IDLE

Rated speed rpm 350

Rack travel in mm : 5.70 Tolerance mm 0.10 Del. quantity cm3/1000 strokes : 19.0

Tolerance cm3/1000 strokes 3.0

Check tolerance cm3/1000s. 6.0 Spreed

Tolerance

cm3/1000 strokes : 6.0

Check tolerance

cm3/1000s. 10.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition

: 04,06,97

Test oil

: ISO 4113

Combination No. : 0 402 648 704

Injection pump

Pump designation : PE8P120A320LS7899

EP type number : 0 412 628 916

Governor

Governer design. : RQV350...1050PA1353

Governer no. : 0 421 814 198

Cust. part No. : 0270742502

Customer-spec. information

Customer : MB-NFZ

Motor

: CM442 LA euromot

Power KW

: 405.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C

40

Tolerance °C

: +-2.0

Overflow valve : 1 417 413 077

Inlet press. bar :

2.0

Tolerance bar : +- 0.1

Overflow quantity

min. L/h : 90

Tolerance L/h : +- 10.0

Test nozzle holde

assembly

: 1 688 901 105

Opening pressure

bar

: 208.5

Tolerance bar : + 1.5

Phasing

: 0-45-90-135-180

: -225-270-315

Tolerance

: +- 0.50

: +- 0.50

Firing order : 8-7-2-6-3 :-5-4-1

Test lines : 1 680 750 075

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 4.75 Tolerance mm : + 0.05

tolerance mm : + 0.10

Rack travel in mm : 20.50

per values _____

BEGINNING OF DELIVERY

3.0

Outside diameter : 8.0

x inside diameter :

REMARKS

x length mm : 1000

Check

Check

tolerance °NW : +- 0.75

Tolerance mm

Start of delivery mark

Tolerance

: +- 0.10

Check

tolerance *NW

: +- 0.75

Barrel no.

:

BASIC SETTING

Rated speed rpm : 1050

		1
Rack travel in mn Tolerance mm		Rated speed rpm : 580 guide sleeve travel mm : 3.62
Del. quantity cm3/1000 strokes	: 282.0	Tolerance mm : + 0.25
Tolerance cm3/1000 strokes	: + 1.0	+ Rated speed rpm : 1204 + guide sleeve + travel mm : 10.00
Check tolerance cm3/1000s.	: +- 4.0	+ Tolerance mm : +- 0.25 + Rated speed rpm : 1300
Spreed	The first concentration of the strong service for the first field of the gas 4 times and the service for the s	travel mm : 11.50 Tolerance mm : + 0.50
Tolerance cm3/1000 strokes	: 6.0	
Check tolerance	: 9.0	+ GUIDE SLEEVE POSITION
		control lever position degree : - 1 Rated speed rpm : 1154
Rated speed rpm	: 350	Rack travel in mm : 14.00
Rack travel in mo Tolerance mm Del. quantity	r: 5.70 :+- 0.10	Tolerance mm : + 1.30
cm3/1000 strokes Tolerance	: 19.0	FULL LOAD DELIVERY AT FULL LOAD STOP
cm3/1000 strokes Check tolerance		+ Rated speed rpm : 1050 + Aneroid pressure
cm3/1000s. Spreed	: +- 6.0	+ hPa : 1300 + Del. quantity + cm3/1000 strokes : 282.0
Tolerance cm3/1000 strokes Check tolerance	: 6.0	+ cm3/1000 strokes : 282.0 + Tolerance + cm3/1000 strokes : - 1.0
cm3/1000s.	: 10.0	Check tolerance cm3/1000s. : +- 4.0
(B) SETTING OF IN	NJECTION PUMP	+ Spreed + Tolerance + cm3/1000 strokes : 6.0
GUIDE SLEEVE TRAN	/Fi	+ Check tolerance + cm3/1000s. : 9.0
		+
Rated speed rpm guide sleeve		CONTROL LEVER
travel mm Tolerance mm	: 8.10 : +- 0.15	control lever position degree : 119.0
Rated speed rpm guide sleeve	: 350	tolerance degree : +- 4.0
travel mm Tolerance mm	: 1.48 : +- 0.20	RATED SPEED : 14.00
Rated speed rpm guide sleeve	: 900	+ Rated speed rpm : 1098 + Tolerance 1/min : +- 8
travel mm Tolerance mm	: 5.69 : + 0.25	rack travel mm : 4.00 Rated speed rpm : 1180

Tolerance 1/min	: +- 15	†
rack travel mm Tolerance mm		Start interlock
Rated speed rpm	: 1250	Rated speed rpm : > 210 Rated speed rpm : < 270
		Check :> 190
LOW IDLE		+ Check + speed 1/min : < 290
control lever position degree tolerance degree		FUEL DELIVERY CHARACTERISTIC
Setting point w/d	out bumper spring	Aneroid pressure + hPa : 1300
Rated speed rpm	: 250	+ Rated speed rpm : 600
CRT mm min.	: > 7.50	+ Del. quantity + cm3/1000 strokes : 300.0 + Tolerance
Testing:		+ cm3/1000 strokes : + 3.0
Rated speed rpm rack travel mm Tolerance mm	: 5.70	- Check tolerance - cm3/1000s. : +- 6.0 - Spreed - Tolerance
Rated speed rpm		cm3/1000 strokes : 8.0
	. 400	cm3/1000s. : 12.0
TORQUE CONTROL Rated speed rpm		Aneroid pressure
rack travel mm Tolerance mm		+ hPa : - + Rated speed rpm : 500
Rated speed rpm rack travel mm		+ Del. quantity + cm3/1000 strokes : 132.0 + Tolerance
Tolerance mm	: +- 0.10	cm3/1000 strokes : + 1.0 Check tolerance
ANEROID/ALTITUDE		- + cm3/1000s. : +- 4.0 + Spreed
COMPENSATOR TEST		Tolerance cm3/1000 strokes : 8.0 Check tolerance
SETTING		cm3/1000s. : 12.0
Rated speed rpm Pressure hPa	: 500 : -	REDUCED QUANTITY
MEASUREMENT		Aneroid pressure
Pressure hPa rack travel mm	: 500 : 1.40	+ hPa : 1300 + Rated speed rpm : 1050 + Del. quantity
Tolerance mm	: +- 0.05	cm3/1000 strokes : 225.0 Tolerance
Pressure hPa rack travel mm	: 1000 : 6.00	cm3/1000 strokes : +- 2.0 Check tolerance
Tolerance mm	: + 0.20	+ cm3/1000s. : +- 5.0

STARTING FUEL DELIVERY

Rated speed rpm : 100

Del. quantity

cm3/1000 strokes : 280.0

Tolerance

cm3/1000 strokes : + 10.0

Check tolerance cm3/1000s. : +- 14.0

LOW IDLE

350 Rated speed rpm :

Rack travel in mm : 5.70 Tolerance mm : +- 0.10

Del. quantity

cm3/1000 strokes : 19.0

Tolerance

cm3/1000 strokes : +- 3.0

Check tolerance

cm3/1000s. : +- 6.0

Spreed

Tolerance 6.0

cm3/1000 strokes :

Check tolerance cm3/1000s. 10.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 03,06,97 Test oil : ISO 4113

Combination No. : 0 402 676 839

Injection pump

Pump designation : PE6P120A320LS7898 EP type number : 0 412 626 957

Governor

Governer design. : RSV350...850P0A683

Governer no. : 0 421 833 602

Cust. part No. : 0280743102

Customer-spec. information Customer : MB-NFZ Motor : OM441 A : 165.0 Power KW

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

40 temp. °C Tolerance °C : +- 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 2.0 Tolerance bar : + 0.1

Overflow quantity

min. l/h : 130 Tolerance l/h : +- 20.0

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

: 208.5 bar Tolerance bar : + 1.5 Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0

 \times length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm : 5.25 Tolerance mm : + 0.05 Check

tolerance mm : +- 0.10

Rack travel in mm : 20.50 Tolerance mm : +- 0.50

: 6-3-5-2-4-

Phasing : 0-60-120-180-240

: -300

Tolerance : +- 0.50

Check

tolerance °NW : + - 0.75

Start of delivery mark

Firing order

Tolerance : +- 0.10

Check

tolerance °NW : +- 0.75

Barrel no. : 6

BASIC SETTING

Rated speed rpm : 850

	+
Rack travel in mm : 12.70 Tolerance mm : +- 0.05	FULL LOAD DELIVERY AT FULL LOAD STOP
Del. quantity cm3/1000 strokes : 191.0	Rated speed rpm : 850 Aneroid pressure
Tolerance cm3/1000 strokes : + 1.0	+ hPa : 1000 + Del. quantity + cm3/1000 strokes : 191.0
Check tolerance	Tolerance + cm3/1000 strokes : + 1.0
cm3/1000s. : +- 4.0	Check tolerance : +- 4.0
Spreed	Spreed Tolerance
Tolerance cm3/1000 strokes : 6.0	+ cm3/1000 strokes : 6.0 + Check tolerance + cm3/1000s. : 10.0
Check tolerance cm3/1000s. : 10.0	10.0
	CONTROL LEVER
Rated speed rpm : 350	control lever position degree : 87.0
Rack travel in mm: 5.10 Tolerance mm: +- 0.10	tolerance degree : +- 4.0
Del. quantity cm3/1000 strokes : 19.0 Tolerance	ASSEMBLY GOVERNOR SETTING
cm3/1000 strokes : +- 3.0 Check tolerance	Rated speed rpm : 875 rack travel mm : 11.70
cm3/1000s. : +- 6.0 Spreed	Rated speed rpm : 940
Tolerance cm3/1000 strokes : 8.0 Check tolerance	Tolerance 1/min : + 4 rack travel mm : 4.00
cm3/1000s. : 12.0	rack travel mm : 0.85 Tolerance mm : +- 0.55
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	Rated speed rpm : 1300
WITH GOVERNOR	Rated speed rpm : 876 rack travel mm : 11.70
GUIDE SLEEVE POSITION	Rated speed rpm : 941 Tolerance 1/min : +- 4
control lever	rack travel mm : 4.00
position degree : - 3 Rated speed rpm : 800	+ rack travel mm : 0.85 + Tolerance mm : +- 0.55 + Rated speed rpm : 1300
Rack travel in mm: 0.50 Tolerance mm: +- 0.20	Rated speed rpm : 1300
governor spring pre-tension	Rated speed rpm : 877 rack travel mm : 11.70
click setting x : 4.00	Rated speed rpm : 942 Tolerance 1/min : +- 4 rack travel mm : 4.00

rack travel mm	: 0.85
Tolerance mm	: + 0.55
Rated speed rpm	: 1300
Rated speed rpm	: 878
rack travel mm	: 11.70
Rated speed rpm	: 943
Tolerance 1/min	: +- 4
rack travel mm	: 4.00
rack travel mm	: 0.85
Tolerance mm	: + 0.55
Rated speed rpm	: 1300
Rated speed rpm	: 879
rack travel mm	: 11.70
Rated speed rpm Tolerance 1/min rack travel mm	
rack travel mm	: 0.85
Tolerance mm	: +- 0.55
Rated speed rpm	: 1300
Rated speed rpm	: 880
rack travel mm	: 11.70
Rated speed rpm Tolerance 1/min rack travel mm	: +- 4
rack travel mm	: 0.85
Tolerance mm	: + 0.55
Rated speed rpm	: 1300
LOW IDLE	
control lever position degree tolerance degree	: 71.0 : +- 4.0
Setting point w/o	ut bumper spring
Rated speed rpm	: 100
CRT mm min.	: > 19.00

rack travel mm Rated speed rpm	: 2.00 : 415
SET IDLE AUXILIAR	Y SPRING
rack travel mm	: 2.00
TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm Rated speed rpm	: 850 : 12.70 : + 0.05 : 600
rack travel mm Tolerance mm	: 12.70 : +- 0.10
ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 500 : 1000 : 12.70 : +- 0.05
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 500 : - : 11.00 : + 0.15
MEASUREMENT	
Rated speed rpm	: 500
Pressure hPa	: -
Pressure hPa rack travel mm Tolerance mm	: 450 : 11.90 : + 0.15
FUEL DELIVERY CHA	RACTERISTICS
Aneroid pressure	

Aneroid pressure		
hPa	:	1000
Rated speed rpm	:	600
Del. quantity		
cm3/1000 strokes	:	193.0
Tolerance		
cm3/1000 strokes	: +	- 3.0
Check tolerance		
cm3/1000s.	: +-	- 6.0
Spreed		

Testing:

Rated speed rpm : 350 rack travel mm : 5.10 Tolerance mm : + 0.10

Tolerance cm3/1000 strokes Check tolerance	: 8.0
cm3/1000s.	: 12.0
Aneroid pressure	•
hPa Rated speed rpm Del. quantity	500
cm3/1000 strokes Tolerance	: 145.0
cm3/1000 strokes Check tolerance	: +- 1.0
cm3/1000S. Spreed	: +- 4.0
Tolerance cm3/1000 strokes	: 8.0
Check tolerance cm3/1000s.	: 12.0
STARTING FUEL DELI	: 100
Rated speed rpm rack travel mm Del. quantity	: 14.50
cm3/1000 strokes Tolerance	: 190.0
cm3/1000 strokes Check tolerance	: +- 10.0
cm3/1000S.	: + 14.0
LOW IDLE	
Rated speed rpm	: 350
Rack travel in mm	F 48
Tolerance mm Del. quantity	: + 0.10
cm3/1000 strokes Tolerance	: 19.0
cm3/1000 strokes Check tolerance	: +- 3.0
cm3/1000S. Spreed	: + 6.0
Tolerance cm3/1000 strokes	: 8.0
Check tolerance cm3/1000s.	: 12.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 10.04.97 : ISO 4113

Combination No. : 0 402 698 033F4

Injection pump

Pump designation : PE8H120/320LS15

EP type number : 0 412 628 003

Governor

Governer design. : RE36 (FD 66322 - FD

: 76319)

Governer no.

: 0 421 890 369

Cust. part No. : 0250745602

Customer-spec. information

Customer : MB-NFZ

Motor

: OM 442 LA

TEST BENCH REQUIREMENTS

Inlet line : 3.2 ELAB

Test oil inlet

temp. °C

Tolerance °C

: +- 2.0

Overflow valve : 2 417 413 082

Inlet press. bar :

Tolerance bar : +- 0.1

Test nozzle holde

assembly

: 1 688 901 105

Opening pressure

bar

208.5

Tolerance bar : +- 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

C07

x inside diameter : 3.0

x length mm :

600

REMARKS

Pump-specific values in Section (B) must be observed!

(A) INJECTION PUMP SETTINGS

No basic setting.

Setting of constant delivery

under Section C.

BEGINNING OF DELIVERY

Test pressure bar: 26.0 Tolerance bar : + 1.0

Prestroke mm Tolerance mm

7.00 : + - 0.05

Check

tolerance mm : - 0.10

Rack travel in mm : 10.50

Tolerance mm : \leftarrow 0.50

Firing order

: 8-7-2-6-3 : - 5- 4- 1

Phasing

: 0-45-90-135-180

: -225-270-315

Tolerance

: + 0.50

Check

tolerance °NW

: +- 0.75

Start of delivery mark

Tolerance

: + - 0.50

Check

tolerance °NW

: +- 0.75

Barrel no. : 8

(B) POSITIONER TESTING ENGINE-SPEED SENSOR Warm-up time: 3 minutes at (All P and R pumps not n=600 min-1, Uact = 2.5 VH and M pumps) Test with control rod TESTING & SETTING RACK TRAVEL SENSOR in stop position POSITION Engine speed min-1: 60 Amplitude V : 1.4 Engine speed min-1: Tolerance V : +/- 0.6 Setting point Check (P, R and H pump) tolerance V : +/- 1.20 3.100 Uact V Engine speed min-1: 600 13.00 CRT mm Difference Tolerance mm : +/- 0.05 Amplitude to Check Amplitude V : max.1.4 tolerance mm : +/- 0.10 Check value (P, R arid H pump) (C) INJECTION PUMP WITH POSITIONER TEST POINT V1 1.700 Uact V CRT mm 6.15 750 Rated speed rpm Tolerance mm : +/- 0.25 Uact V 2.800 Check Prestroke solenoid tolerance mm : +/- 0.30 Stroke mm 7.40 Del. quantity cm3/1000 strokes : 342.0 Setting point Tolerance (m pump) cm3/1000 strokes : +-2.0 Check tolerance Uact V 3.100 cm3/1000s. : +- 6.0 12.50 CRT mm Spreed Tolerance mm : ÷/- 0.05 Tolerance cm3/1000 strokes : 5.0 Check : +/- 0.10 tolerance mm Check tolerance cm3/1000s. Check value FUEL DELIVERY CHARACTERISTICS (qmuq M) 1.700 950 Uact V Rated speed rpm : CRT mm 5.50 2.900 : +/- 0.25 Tolerance mm Prestroke solenoid 8.00 Check Stroke mm : +/- 0.30 Del. quantity tolerance mm cm3/1000 strokes : 329.0 Stop position Tolerance cm3/1000 strokes : +-3.0 : Value with Check tolerance Uact V deenergised adjusting magnet cm3/1000s. : +- 6.0 and control rod in stop position. CRT mm 0.75 Rated speed rpm : 550 Tolerance mm : +/- 0.25 Uact V 2.700 Prestroke solenoid Check

: 9.50

Stroke mm

tolerance mm

: +/- 0.35

Not augustātu		
Del. quantity cm3/1000 strokes	: 349.0	
Tolerance cm3/1000 strokes	: +- 3.0	
Check tolerance	; +- 3.0	
cm3/1000s.	: +- 6.0	
Rated speed rpm	: 630	
Uact V Prestroke solenoi:	: 2.000	
Stroke mm	: 5.30	
Del. quantity cm3/1000 strokes	: 203.0	
Tolerance	: 203.0	
cm3/1000 strokes Check tolerance	: +- 2.5	
cm3/1000s.	: +- 5.0	
TEST POINT L1		
Rated speed rpm	: 300	
Uact V	: 1.500	
Tolerance Volt Check tolerance	: +- 0.060	
Volt	: +- 0.060	
Prestroke solenoi: Stroke mm	: 8.00	
Del. quantity		
cm3/1000 strokes Tolerance	: 31.0	
cm3/1000 strokes	: +- 3.0	
Spreed Tolerance		
cm3/1000 strokes	: 8.0	
Check tolerance cm3/1000s.	: 12.0	
STARTING FUEL DEL	VERY	
Rated speed rpm	: 100 : 1.900	
Uact V Prestroke solenoi:		
Stroke mm	: 10.00	
Del. quantity cm3/1000 strokes	: 108.0	
Tolerance		
cm3/1000 strokes	: +- 10.0	

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 11.06.97 Test oil : ISO 4113

Combination No. : 0 402 746 603

Injection pump

Pump designation : PES6P12OA32ORS7359 EP type number : 0 412 726 925

Governor

Governer design. : RQ300/1050PA999-7

Governer no. : 0 421 801 799

Cust. part No. : CCEP 5153 66-224

Customer-spec. information

Customer : RENAULT V.I.
Motor : MIHR062045 A41

Power KW : 188.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40 Tolerance °C : + 2.0

Overflow valve : 2 417 413 078

Inlet press. bar : 2.5
Tolerance bar : +- 0.1

Test nozzle holde

assembly : 1 688 901 101

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 4.70 Tolerance mm : + 0.05 Check

tolerance mm : + 0.10

Rack travel in mm : 20.25 Tolerance mm : +- 0.75

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : + 0.50

Check

tolerance "NW : +- 0.75

Start of delivery mark

*NW after s.o.d. : -0.50

Tolerance : +- 0.50

Check

tolerance °NW : + 0.75

Barrel no. : 1

CRT ZERO POSITION

Rack travel in mm : 12.40 Tolerance mm : + 0.05

BASIC SETTING

Rated speed rpm : 600	Datad and days 1 FO/
Tolerance mm : +- 0.05	Rated speed rpm : 594 guide sleeve
	travel mm : 5.11
Del. quantity	Tolerance mm : +- 0.10
cm3/1000 strokes : 197.0 +	
+	Rated speed rpm : 720
Tolerance	guide sleeve
cm3/1000 strokes : +- 1.0 +	travel mm : 6.00
Charle to Language	Tolerance mm : +- 0.10
Check tolerance + 4.0 + 4.0	Detail enough one 1700
Cm3/10005. : +- 4.0 +	Rated speed rpm : 1380 guide sleeve
Spreed	travel mm : 11.50
	Tolerance mm : +- 0.50
Tolerance	rocerance min 0.50
cm3/1000 strokes : 5.0	
+	GUIDE SLEEVE POSITION
Check tolerance	
cm3/1000s. : 9.0	
	control lever
+	position degree : 109
+	Rated speed rpm : 800
Rated speed rpm : 275	00.00
Dool drough in an a (70)	Rack travel in mm : 20.00
Rack travel in mm: -6.70	Tolerance mm : +- 0.80
Tolerance mm : +- 0.10 +- Del. quantity +-	
cm3/1000 strokes : 36.0	FULL LOAD DELIVERY AT FULL LOAD STOP
Tolerance	TOLL LOAD DELIVERY AT TOLL LOAD STOP
cm3/1000 strokes : + 2.0	Rated speed rpm : 600
Check tolerance	Aneroid pressure
cm3/1000s. : + 5.0	hPa : 1000
cm3/1000s. : + 5.0 + 5.0	hPa : 1000 Del. quantity
Spreed - Tolerance -	hPa : 1000 Del. quantity cm3/1000 strokes : 197.0
Spreed - Tolerance - cm3/1000 strokes : 8.0 -	hPa : 1000 Del. quantity cm3/1000 strokes : 197.0 Tolerance
Spreed - Tolerance - cm3/1000 strokes : 8.0 - Check tolerance	hPa : 1000 Del. quantity cm3/1000 strokes : 197.0 Tolerance cm3/1000 strokes : +- 1.0
Spreed - Tolerance - cm3/1000 strokes : 8.0 -	hPa : 1000 Del. quantity cm3/1000 strokes : 197.0 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance
Spreed - Tolerance - cm3/1000 strokes : 8.0 - Check tolerance	hPa : 1000 Del. quantity cm3/1000 strokes : 197.0 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0
Spreed Tolerance cm3/1000 strokes: 8.0 Check tolerance cm3/1000s. ; 12.0	hPa : 1000 Del. quantity cm3/1000 strokes : 197.0 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0 Spreed
Spreed Tolerance cm3/1000 strokes: 8.0 Check tolerance cm3/1000s. : 12.0 (B) SETTING OF INJECTION PUMP	hPa : 1000 Del. quantity cm3/1000 strokes : 197.0 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance
Spreed Tolerance cm3/1000 strokes: 8.0 Check tolerance cm3/1000s. ; 12.0	hPa : 1000 Del. quantity cm3/1000 strokes : 197.0 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 5.0
Spreed Tolerance cm3/1000 strokes: 8.0 Check tolerance cm3/1000s. : 12.0 (B) SETTING OF INJECTION PUMP	hPa : 1000 Del. quantity cm3/1000 strokes : 197.0 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance
Spreed Tolerance cm3/1000 strokes: 8.0 Check tolerance cm3/1000s. : 12.0 (B) SETTING OF INJECTION PUMP	hPa : 1000 Del. quantity cm3/1000 strokes : 197.0 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 5.0
Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE TRAVEL	hPa : 1000 Del. quantity cm3/1000 strokes : 197.0 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance
Spreed Tolerance cm3/1000 strokes: 8.0 Check tolerance cm3/1000s. : 12.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 1145	hPa : 1000 Del. quantity cm3/1000 strokes : 197.0 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000 strokes : 9.0
Spreed Tolerance cm3/1000 strokes: 8.0 Check tolerance cm3/1000s. : 12.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 1145 guide sleeve	hPa : 1000 Del. quantity cm3/1000 strokes : 197.0 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance
Spreed Tolerance cm3/1000 strokes: 8.0 Check tolerance cm3/1000s. : 12.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 1145 guide sleeve travel mm : 6.55	hPa : 1000 Del. quantity cm3/1000 strokes : 197.0 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 9.0
Spreed Tolerance cm3/1000 strokes: 8.0 Check tolerance cm3/1000s. : 12.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 1145 guide sleeve	hPa : 1000 Del. quantity cm3/1000 strokes : 197.0 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 9.0 CONTROL LEVER control lever
Spreed Tolerance cm3/1000 strokes: 8.0 Check tolerance cm3/1000s. : 12.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 1145 guide sleeve travel mm : 6.55 Tolerance mm : +- 0.15	hPa : 1000 Del. quantity cm3/1000 strokes : 197.0 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 9.0 CONTROL LEVER control lever position degree : 276.0
Spreed Tolerance cm3/1000 strokes: 8.0 Check tolerance cm3/1000s. : 12.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 1145 guide sleeve travel mm : 6.55 Tolerance mm : +- 0.15 Rated speed rpm : 275	hPa : 1000 Del. quantity cm3/1000 strokes : 197.0 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 9.0 CONTROL LEVER control lever
Spreed Tolerance cm3/1000 strokes: 8.0 Check tolerance cm3/1000s.: 12.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm: 1145 guide sleeve travel mm: 6.55 Tolerance mm: + 0.15 Rated speed rpm: 275 guide sleeve	hPa : 1000 Del. quantity cm3/1000 strokes : 197.0 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 9.0 CONTROL LEVER control lever position degree : 276.0 tolerance degree : +- 4.0
Spreed Tolerance cm3/1000 strokes: 8.0 Check tolerance cm3/1000s. : 12.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 1145 guide sleeve travel mm : 6.55 Tolerance mm : +- 0.15 Rated speed rpm : 275	hPa : 1000 Del. quantity cm3/1000 strokes : 197.0 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 9.0 CONTROL LEVER control lever position degree : 276.0 tolerance degree : +- 4.0 RATED SPEED
Spreed Tolerance cm3/1000 strokes: 8.0 Check tolerance cm3/1000s. : 12.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 1145 guide sleeve travel mm : 6.55 Tolerance mm : + 0.15 Rated speed rpm : 275 guide sleeve travel mm : 1.75	hPa : 1000 Del. quantity cm3/1000 strokes : 197.0 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 9.0 CONTROL LEVER control lever position degree : 276.0 tolerance degree : +- 4.0 RATED SPEED rack travel mm : -1.00 Rated speed rpm : 1130
Spreed Tolerance cm3/1000 strokes: 8.0 Check tolerance cm3/1000s. : 12.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 1145 guide sleeve travel mm : 6.55 Tolerance mm : 40.15 Rated speed rpm : 275 guide sleeve travel mm : 1.75 Tolerance mm : 40.20 Rated speed rpm : 1050	hPa : 1000 Del. quantity cm3/1000 strokes : 197.0 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 9.0 CONTROL LEVER control lever position degree : 276.0 tolerance degree : +- 4.0 RATED SPEED rack travel mm : -1.00
Spreed Tolerance cm3/1000 strokes: 8.0 Check tolerance cm3/1000s. : 12.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 1145 guide sleeve travel mm : 6.55 Tolerance mm : + 0.15 Rated speed rpm : 275 guide sleeve travel mm : 1.75 Tolerance mm : + 0.20 Rated speed rpm : 1050 guide sleeve	hPa : 1000 Del. quantity cm3/1000 strokes : 197.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 9.0 CONTROL LEVER control lever position degree : 276.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : -1.00 Rated speed rpm : 1130 Tolerance 1/min : + 15
Spreed Tolerance cm3/1000 strokes: 8.0 Check tolerance cm3/1000s. : 12.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 1145 guide sleeve travel mm : 6.55 Tolerance mm : + 0.15 Rated speed rpm : 275 guide sleeve travel mm : 1.75 Tolerance mm : + 0.20 Rated speed rpm : 1050 guide sleeve travel mm : 6.00	hPa : 1000 Del. quantity cm3/1000 strokes : 197.0 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 9.0 CONTROL LEVER control lever position degree : 276.0 tolerance degree : +- 4.0 RATED SPEED rack travel mm : -1.00 Rated speed rpm : 1130 Tolerance 1/min : +- 15 rack travel mm : -8.40
Spreed Tolerance cm3/1000 strokes: 8.0 Check tolerance cm3/1000s. : 12.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 1145 guide sleeve travel mm : 6.55 Tolerance mm : + 0.15 Rated speed rpm : 275 guide sleeve travel mm : 1.75 Tolerance mm : + 0.20 Rated speed rpm : 1050 guide sleeve	hPa : 1000 Del. quantity cm3/1000 strokes : 197.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 9.0 CONTROL LEVER control lever position degree : 276.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : -1.00 Rated speed rpm : 1130 Tolerance 1/min : + 15

Tolerance 1/min : +- 5 rack travel mm : -11.90 Tolerance mm : +- 0.50 Rated speed rpm : 1375 LOW IDLE control lever position degree : 254.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 175 CRT mm min. : < -4.80Testing: Rated speed rpm : 275 rack travel mm : -6.70 Tolerance mm : \leftarrow 0.10 rack travel mm : -10.40 Rated speed rpm : 465 Tolerance 1/min : +- 20 TORQUE CONTROL Rated speed rpm : 600 Tolerance mm : +~ 0.05 Rated speed rpm : 1050 : +- 0.10 Tolerance mm ANEROID/ALTITUDE COMPENSATOR TEST SETTING 500 Rated speed rpm : Pressure hPa : 1000 Rated speed rpm : 500 Pressure hPa : -1.75 Tolerance mm : +- 0.20 **MEASUREMENT** Rated speed rpm : 500 Pressure hPa : 220

rack travel mm : -0.85 Tolerance mm : +- 0.15 Pressure hPa : 160 rack travel mm : -1.25 Tolerance mm : \leftarrow 0.05 Start interlock Rated speed rpm : > 100 Rated speed rpm : < 195 Check speed 1/min : > 80 Check speed 1/min : < 215 FUEL DELIVERY CHARACTERISTICS Aneroid pressure hPa 1000 Rated speed rpm : 1050 Del. quantity cm3/1000 strokes : 198.0 Tolerance cm3/1000 strokes : +- 3.0Check tolerance cm3/1000s. : +- 6.0 Aneroid pressure hPa Rated speed rpm : 500 Del. quantity cm3/1000 strokes : 153.0 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. STARTING FUEL DELIVERY Rated speed rpm : 100 Del. quantity cm3/1000 strokes : 150.0 Tolerance

cm3/1000 strokes : + 15.0Check tolerance : + 19.0 cm3/1000s.

LOW IDLE

Rated speed rpm	:	275
Tolerance mm	; ; +-	-6.70 0.10
Del. quantity cm3/1000 strokes Tolerance	:	36.0
cm3/1000 strokes Check tolerance	: +-	2.0
cm3/1000s.	: +-	5.0
Tolerance cm3/1000 strokes		8.0
Check tolerance	•	
cm3/1000s.	:	12.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 06.06.97 Test oil : ISO 4113

Combination No. : 0 402 746 634

Injection pump

Pump designation : PES6P120A720LS7262

: -1

EP type number : 0 412 726 918

Governor

Governer design. : RQV350...950PA1348

Governer no. : 0 421 814 196

Cust. part No. : 0240746302

Customer-spec. information

Customer : MTU
Motor : 6R183-02
Power KW : 305.0

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet

temp. °C : 40
Tolerance °C : +- 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 2.0
Tolerance bar : + 0.1

Overflow quantity

min. L/h : 170 Tolerance L/h : +- 20.0

Test nozzle holde

assembly : 1 688 901 019

Opening pressure

bar : 208.5 Tolerance bar : +- 1.5 Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm: : 4.05
Tolerance mm : + 0.05
Check

tolerance mm : +- 0.10

Rack travel in mm : 20.50 Tolerance mm : + 0.50

Firing order : 6-2-4-1-5-

: 3

Phasing : 0-60-120-180-240

: -300 Tolerance : +- 0.50

Check

tolerance °NW : +- 0.75

Start of delivery mark

Tolerance : + 0.10

Check

tolerance °NW : + 0.75

Barrel no. : 6

BASIC SETTING

Rated speed rpm : 950

Rack travel in mm : 13.20

Tolerance mm : +- 0.05	guide sleeve travel mm : 11.50
Del. quantity cm3/1000 strokes : 298.0	+ Tolerance mm : +- 0.50
Tolerance cm3/1000 strokes : + 1.0	GUIDE SLEEVE POSITION
Check tolerance cm3/1000s. : + 4.0	control lever position degree : - 1 Rated speed rpm : 1069
Spreed	+
Tolerance cm3/1000 strokes : 5.0	Rack travel in mm : 12.20 Tolerance mm : +- 1.30
Check tolerance cm3/1000s. : 9.0	FULL LOAD DELIVERY AT FULL LOAD STOP
	Rated speed rpm : 950 Aneroid pressure
Rated speed rpm : 350	+ hPa : 1400 + Del. quantity
Rack travel in mm : 5.10	+ cm3/100C strokes : 298.0 + Tolerance
Tolerance mm : +- 0.10 Del. quantity	cm3/1000 strokes : +- 1.0 Check tolerance
cm3/1000 strokes : 21.0	$\frac{1}{7}$ c.n3/1000s. : +- 4.0
Tolerance cm3/1000 strokes : +- 3.0	+ Spreed + Tolerance
Check tolerance cm3/1000s. : +- 6.0	+ cm3/1000 strokes : 5.0 + Check tolerance
Spreed Tolerance	+ cm3/1000s. : 9.0
cm3/1000 strokes : 8.0	-
Check tolerance cm3/1000s. : 12.0	CONTROL LEVER
(B) SETTING OF INJECTION PUMP	control lever position degree : 119.0
WITH GOVERNOR	tolerance degree : +- 4.0
CHINE SLEEVE TRAVEL	RATED SPEED
GUIDE SLEEVE TRAVEL	rack travel mm : 12.20 Rated speed rpm : 995
Rated speed rpm : 1008 quide sleeve	Tolerance 1/min : +- 5
guide sleeve travel mm : 8.39 Tolerance mm : + 0.15	rack travel mm : 4.00 Rated speed rpm : 1085
	+ Tolerance 1/min : +- 15
Rated speed rpm : 350 guide sleeve	rack travel mm : 0.50
guide sleeve travel mm : 2.02 Tolerance mm : +- 0.20	Tolerance mm : +- 0.50 Rated speed rpm : 1250
Rated speed rpm : 486	-
guide sleeve travel mm : 3.45 Tolerance mm : +- 0.25	
Tolerance mm : +- 0.25	+ LOW IDLE
Rated speed rpm : 1220	+

control lever position degree tolerance degree	: 68.0 : +- 4.0
Setting point w/o	ut bumper spring
Rated speed rpm	: 250
CRT mm min.	: > 7.40
Testing:	
Rated speed rpm rack travel mm Tolerance mm	: 350 : 5.10 : ← 0.10
Rated speed rpm	: 375
TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm	
Rated speed rpm rack travel mm Tolerance mm	: 750 : 13.20 : +- 0.10
ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 500 : 1400 : 13.20 : ← 0.05
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 500 : - : 7.80 : +- 0.15
MEASUREMENT	
Rated speed rpm	: 500
Pressure hPa rack travel mm Tolerance mm	: 400 : 8.85 : +- 0.05
Pressure hPa rack travel mm Tolerance mm	: 850 : 11.25 : ← 0.15
Start interlock	

Rated speed rpm Rated speed rpm	: > 240 : < 270	
Check speed 1/min	: > 220	
Check speed 1/min	: < 290	
FUEL DELIVERY CHARACTERISTICS		
Aneroid pressure	4/00	
hPa Rated speed rpm Del. quantity	: 1400 : 750	
cm3/1000 strokes Tolerance		
cm3/1000 strokes Check tolerance cm3/1000s.	: +- 2.0 : +- 5.0	
Spreed Tolerance		
cm3/1000 strokes Check tolerance cm3/1000s.	: 10.0 : 14.0	
	. 17.0	
Aneroid pressure hPa Rated speed rpm	: – : 500	
Del. quantity cm3/1000 strokes		
Tolerance cm3/1000 strokes	: + 1.0	
Check tolerance cm3/1000S. Spreed	: +- 4.0	
Tolerance cm3/1000 strokes	: 10.0	
Check tolerance cm3/1000s.	: 14.0	
CTARTING FUEL DE	TUEOV	
STARTING FUEL DEL		
Rated speed rpm rack travel mm Tolerance mm	: 100 : 15.00 : +- 0.20	
Del. quantity cm3/1000 strokes		
Tolerance cm3/1000 strokes Check tolerance	: +- 18.0	
cm3/1000s.	: +- 24.0	

LOW IDLE

Rated speed rpm	:		350	
. • • • • • • • • • • • • • • • • • • •		+-	5.10 0.10	
Del. quantity cm3/1000 strokes Tolerance	:		21.0	
cm3/1000 strokes Check tolerance	:	+	3.0	
cm3/1000s. Spreed	:	+-	6.0	
Tolerance cm3/1000 strokes	:		8.0	
Check tolerance cm3/1000s.	:		12.0	

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 06.06.97 Test oil : ISO 4113

Combination No. : 0 402 776 840

Injection pump

Pump designation : PESCP120A720L87440 EP type number : 0 412 726 971

Governor

Governer design. : RSV350...750POA520

: -1

Governer no. : 0 421 833 262

Cust. part No. : 0270749602

Customer-spec. information
Customer : MB-NFZ
Motor : 0M447 A
Power KW : 180.0

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet

temp. °C : 40 Tolerance °C : +- 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 2.0
Tolerance bar : +- 0.1

Overflow quantity

min. l/h : 225 Tolerance l/h : + 20.0

Test nozzle holde

assembly : 1 688 901 019

Opening pressure

bar : 208.5 Tolerance bar : + 1.5 Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm : 5.00 Tolerance mm : +- 0.05 Check

Check

tolerance mm : +- 0.10

Rack travel in mm : 10.50 Tolerance mm : +- 0.50

Firing order : _6- 2- 4- 1- 5-

: 3

Phasing : 0-60-120-180-240

: -300 Tolerance : +- 0.50

Check

tolerance °NW : +- 0.75

Start of delivery mark

Tolerance : + 0.50

Check

tolerance °NW : + 0.75

Barrel no. : 6

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 15.00

c18

Tolerance mm : ← 0.05	+ Rated speed rpm : 700 + Aneroid pressure
Del. quantity cm3/1000 strokes : 230.0	+ hPa : - Del. quantity
* 1	+ cm3/1000 strokes : 230.0
Tolerance cm3/1000 strokes : + 1.0	Tolerance cm3/1000 strokes : + 1.0 Check tolerance
Check tolerance cm3/1000s. : + 4.0	cm3/1000s. : +- 4.0
	+ Tolerance
Spreed	- cm3/1000 strokes : 5.0 - Check tolerance
Tolerance	- cm3/1000s. : 9.0
cm3/1000 strokes : 5.0	<u>†</u>
Check tolerance	
cm3/1000s. : 9.0	+ CONTROL LEVER
	control lever
D tool and add and a 250	position degree : 77.0
Rated speed rpm : 350	tolerance degree : +- 4.0
Rack travel in mm : 5.30	
Tolerance mm : +- 0.10	ASSEMBLY GOVERNOR SETTING
Del. quantity cm/3/1000 strokes : 17.0	+ Rated speed rom : 750
Tolerance	
cm3/1000 strokes : + 3.0	+
Check tolerance	Rated speed rpm : 785
cm3/1000s. : +- 6.0	Tolerance 1/min : + 4
Spreed Tolerance	rack travel mm : 4.00
cm3/1000 strokes : 8.0	rack travel mm : 0.85
Check tolerance	Tolerance mm : + 0.55
cm3/1000s. : 12.0	+ Rated speed rpm : 850
(D) SETTING OF THIESTIAN PUMP	Poted speed ppg 4 751
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	Rated speed rpm : 751 rack travel mm : 14.00
Walling of Eliteration	+
	Rated speed rpm : 786
CHINE OF FEVE DOCTTION	Tolerance 1/min : + 4
GUIDE SLEEVE POSITION	rack travel mm : 4.00
	rack travel mm : 0.85
control lever	Tolerance mm : +- 0.55 Rated speed rpm : 850
position degree : - 3	+ Rated speed rpm : 850
Rated speed rpm : 800	İ
Rack travel in mm : 0.50	Rated speed rpm : 752
Tolerance mm : + 0.20	rack travel mm : 14.00
governor spring	Rated speed rpm : 787
pre-tension	Tolerance 1/min : +- 4
click setting x : 0.75	rack travel mm : 4.00
	1 221
FULL LOAD DELIVERY AT FULL LOAD S	rack travel mm : 0.85 Tolerance mm : + 0.55 Rated speed rpm : 850
TOLL COMP PECTACK! AT TOLL COMP C	Rated speed rpm : 850
	1 Matta opeca i piii . Ooo

Rated speed rpm	: 753
rack travel mm	: 14.00
Rated speed rpm	: 788
Tolerance 1/min	: + 4
rack travel mm	: 4.00
rack travel mm	: 0.85
Tolerance mm	: + 0.55
Rated speed rpm	: 850
Rated speed rpm	: 754
rack travel mm	: 14.00
Rated speed rpm Tolerance 1/min rack travel mm	
rack travel mm	: 0.85
Tolerance mm	: +- 0.55
Rated speed rpm	: 850
Rated speed rpm	: 755
rack travel mm	: 14.00
Rated speed rpm	: 790
Tolerance 1/min	: +- 4
rack travel mm	: 4.00
rack travel mm	: 0.85
Tolerance mm	: + 0.55
Rated speed rpm	: 850
LOW IDLE	
control lever position degree tolerance degree	: 62.0 : + 4.0
Testing:	
Rated speed rpm	: 350
rack travel mm	: 5.30
Tolerance mm	: +- 0.10
rack travel mm Rated speed rpm Tolerance 1/min	
SET IDLE AUXILIAR	Y SPRING
Rated speed rpm	: 100
rack travel mm	: 2.00

TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm	: 700 : 15.00 : +- 0.05
STARTING FUEL DELI	VERY
Rated speed rpm rack travel mm Del. quantity	: 100 : 16.00
cm3/1000 strokes	: 210.0
Tolerance cm3/1000 strokes	: +- 15.0
Check tolerance cm3/1000S.	: +- 19.0
LOW IDLE	
Rated speed rpm	: 350
Rack travel in mm Tolerance mm Del. quantity	: 5.30 : +- 0.10
cm3/1000 strokes	: 17.0
Tolerance cm3/1000 strokes	: +- 3.0
Check tolerance cm3/1000s. Spreed	: +- 6.0
Tolerance cm3/1000 strokes	: 8.0
Check tolerance cm3/1000s.	: 12.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil : ISO 4113

: 07.11.96

Combination No. : 0 402 946 014

Injection pump

Pump designation : PES6P120A720LS8037 EP type number : 0 412 926 024

Governor

Governer design. : RQV250...1050PA1236K

Governer no. : 0 421 815 970

Cust. part No. : 1370101

Customer-spec. information Customer : SCANIA : DSC1202 Motor

TEST BENCH REQUIREMENTS

Inlet line : EHAB

Test oil inlet

temp. °C : 40
Tolerance °C : +- 2.0

Overflow valve : 2 417 413 082

Inlet press. bar : 2.5 Tolerance bar : + 0.1

Overflow quantity

min. l/h : 85
Tolerance l/h : +- 10.0

Test nozzle holde

: 1 688 901 104 assembly

Opening pressure

bar : 251.5 Tolerance bar : + 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm : 4.40 Tolerance mm : + 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm : 10.50 Tolerance mm : +- 1.50

Firing order : 1-5- 3- 6- 2-

Phasing : 0-60-120-180-240

: -300

Tolerance : +- 0.50

Check

tolerance $^{\circ}NW$: \leftarrow 0.75

Start of delivery blocking

*NW after s.o.d. : 180.00

Tolerance : +- 0.50

Check

tolerance °NW : +- 0.75

Barrel no. :

BASIC SETTING

+	Tolerance mm : +- 0.25
Rack travel in mm: 14.05 Tolerance mm: + 0.05	Rated speed rpm : 290 guide sleeve travel mm : 2.62
Del. quantity cm3/1000 strokes : 330.0	Tolerance mm : +- 0.25
Tolerance cm3/1000 strokes : + 1.0	Rated speed rpm : 1310 guide sleeve travel mm : 13.50 Tolerance mm : +- 0.50
Check tolerance cm3/1000s. : + 10.0	GUIDE SLEEVE POSITION
Spreed	
Tolerance cm3/1000 strokes : 8.0	control lever position degree : - 1 Rated speed rpm : 1170
Check tolerance cm3/1000s. : 14.0	Rack travel in mm : 12.10 Tolerance mm : +- 1.30
Rated speed rpm : 250	FULL LOAD DELIVERY AT FULL LOAD STOP
Rack travel in mm : 4.60 Tolerance mm : + 0.30 Del. quantity	Rated speed rpm : 775 Aneroid pressure hPa : 1500
cm3/1000 strokes : 19.0 + Tolerance +	Del. quantity cm3/1000 strokes : 330.0
cm3/1000 strokes : +- 3.0	Tolerance cm3/1000 strokes : +- 1.0 Check tolerance
Spreed +	cm3/1000s. : +- 10.0 Spreed
cm3/1000 strokes : 4.0 + Check tolerance	Tolerance cm3/1000 strokes : 8.0
cm3/1000s. : 8.0 +	Check tolerance cm3/1000s. : 14.0
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	
WITH GOVERNOR	CONTROL LEVER
GUIDE SLEEVE TRAVEL	control lever position degree : 63.0
Rated speed rpm : 1116 guide sleeve	tolerance degree : +- 4.0
travel mm : 10.09 Tolerance mm : + 0.15	<pre>control lever position degree : 121.0 tolerance degree : + 4.0</pre>
Rated speed rpm : 250 guide sleeve	RATED SPEED
travel mm : 1.79 Tolerance mm : +- 0.20	rack travel mm : 12.10 Rated speed rpm : 1095 Tolerance 1/min : +- 5
Rated speed rpm : 644 guide sleeve	Check speed 1/min : +- 10
travel mm : 4.47	

rack travel mm Rated speed rpm Tolerance 1/min Check speed 1/min rack travel mm Tolerance mm Rated speed rpm	: 4.00 : 1180 : ← 15 : ← 20 : 0.50 : ← 0.50 : 1300
FOM IDE	ra _{nder} inne eine eine sykstem ogsykpropriest einem eine operande fan de eine het ekkenne.
control lever position degree tolerance degree	: 75.0 : + 4.0
control lever position degree tolerance degree	: 17.0 : + 4.0
Setting point w/o	ut bumper spring
Rated speed rpm	: 150
CRT mm min.	: > 7.30
Testing:	
Rated speed rpm rack travel mm Tolerance mm	: 250 : 4.60 : + 0.30
Rated speed rpm	; 275
TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm	: 775 : 14.05 : +- 0.05
Rated speed rpm rack travel mm Tolerance mm	: 650 : 13.05 : +- 0.10
Rated speed rpm rack travel mm Tolerance mm	: 1050 : 13.10 : +- 0.10
Rated speed rpm rack travel mm Tolerance mm	: 675 : 13.30 : + 0.30

ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 775 : 1500 : 14.05 : +- 0.10
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 775 : - : 8.50 : +- 0.20
MEASUREMENT	
Rated speed rpm	: 775
Pressure hPa rack travel mm Tolerance mm	: 300 : 9.80 : + 0.15
Pressure hPa rack travel mm Tolerance mm	: 610 : 11.50 : + 0.05
Start interlock	
Rated speed rpm Rated speed rpm	: > 100 : < 170
Check speed 1/min Check	: > 80
speed 1/min	: < 190
FUEL DELIVERY CHA	RACTERISTICS
Aneroid pressure hPa Rated speed rpm Del. quantity	: 1500 : 650
cm3/1000 strokes Tolerance	: 319.0
cm3/1000 strokes Check tolerance	: +- 4.0
cm3/1000S.	: +- 10.0
CM37 10003.	
Aneroid pressure	: 1500

Del. quantity cm3/1000 strokes : 272.0 Tolerance cm3/1000 strokes : +- 4.0 Check tolerance

cm3/1000s. : +- 8.0

Aneroid pressure

1500 hPa 675 Rated speed rpm Del. quantity

cm3/1000 strokes : 323.0

Tolerance

cm3/1000 strokes : +- 4.0

Check tolerance

cm3/1000s. : +- 10.0

Aneroid pressure

hPa 500 Rated speed rpm

Del. quantity

cm3/1000 strokes : 192.0

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance

cm3/1000s. : +- 4.0

STARTING FUEL DELIVERY

Set starting CRT at K-cam.

Rated speed rpm : 100 rack travel mm 10.70 : +- 0.50 Tolerance mm

Del. quantity

cm3/1000 strokes : 210.0

Tolerance

cm3/1000 strokes : +- 20.0

Check tolerance

: +- 24.0 cm3/1000s.

LOW IDLE

250 Rated speed rpm :

Rack travel in mm : 4.60 Tolerance mm : +- 0.30

Del. quantity

cm3/1000 strokes : 19.0

Tolerance

cm3/1000 strokes : \leftarrow 3.0

Check tolerance

: +- 6.0 cm3/1000s.

Spreed

Tolerance

cm3/1000 strokes : 4.0

Check tolerance

cm3/1000s. 8.0 :

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 14.03.97 : ISO 4113

Combination No. : 0 402 946 015

Injection pump

Pump designation : PES6P120A320RS8038 EP type number : 0 412 926 025

Governor

Governer design. : RQV250...1000PA1239

Governer no.

: 0 421 814 157

Cust. part No. : 1383795

Customer-spec. information Customer : SCANIA : DSC 913 Motor

TEST BENCH REQUIREMENTS

Inlet line : EHAB

Test oil inlet

40 temp. °C Tolerance °C 2.0

Overflow valve : 2 417 413 082

Inlet press. bar : 2.5 : + 0.1 Tolerance bar

Overflow quantity

min. l/h : 105 Tolerance l/h : + 20.0

Test nozzle holde

: 1 688 901 104 assembly

Opening pressure

bar : 251.5 Tolerance bar : + 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : Tolerance bar : +- 1.0

: 4.00 Prestroke mm : +- 0.05 Tolerance mm

Check

tolerance mm : +- 0.10

Rack travel in mm : 20.50

Tolerance mm : + 0.50

Firing order : 1-5-3-6-2-

: 0-60-120-180-240 Phasing

: -300

Tolerance : +- 0.50

Check

tolerance °NW : +- 0.75

Start of delivery blocking

Tolerance : +- 0.50

Check

tolerance °NW : +- 0.75

Barrel no. : 1

BASIC SETTING

,	
Rack travel in mm: 12.70	Rated speed rpm : 322
Tolerance mm : + 0.05	guide sleeve
	travel mm : 2.58
Del. quantity	Tolerance mm : + 0.25
cm3/1000 strokes : 300.0	
Tolerance	Rated speed rpm : 372
cm3/1000 strokes : + 1.0	guide sleeve travel mm : 3.27
The root serokes . The	Tolerance mm : +- 0.25
Check tolerance	
cm3/1000s. : + 8.0	Rated speed rpm : 470
Canada	guide sleeve travel mm : 4.09
Spreed	Tolerance mm : 4.09
Tolerance	Total arice and
cm3/1000 strokes : 8.0 +	Rated speed rpm : 1470
+	guide sleeve
Check tolerance + cm3/1000s. : 12.0 +	travel mm : 11.50
cm3/1000s. : 12.0	Tolerance mm : +- 0.50
+	GUIDE SLEEVE POSITION
Rated speed rpm : 250 +	
Rack travel in mm: 7.50 +	annimal lavan
Folerance mm : + 0.10	control lever position degree : - 1
Del. quantity	Rated speed rpm : 1260
cm3/1000 strokes : 40.0 +	
Tolerance	Rack travel in mm : 11.40
cm3/1000 strokes : + 3.0 +	Tolerance mm : +- 1.50
Check tolerance cm3/1000s. : + 6.0	
Spreed	FULL LOAD DELIVERY AT FULL LOAD STOP
Tolerance	-
cm3/1000 strokes : 4.0 +	Rated speed rpm : 600
Check tolerance + cm3/1000s. : 8.0 +	Aneroid pressure hPa : 1500
cm3/1000s. : 8.0	hPa : 1500 Del. quantity
1	cm3/1000 strokes : 300.0
(B) SETTING OF INJECTION PUMP	Tolerance
WITH GOVERNOR +	cm3/1000 strokes : +- 1.0
†	Check tolerance cm3/1000s. : +- 8.0
GUIDE SLEEVE TRAVEL	cm3/1000s. : +- 8.0 Spreed
+	Tolerance
Rated speed rpm : 1057	cm3/1000 strokes : 8.0
guide sleeve +	Check tolerance
travel mm : 7.89 + Tolerance mm : + 0.15	cm3/1000s. : 12.0
Total ance like . 40 0.19	
Rated speed rpm : 250	
guide sleeve	CONTROL LEVER
travel mm : 1.33	control toyon
Tolerance mm : + 0.20	control lever position degree : 57.0
Rated speed rpm : 748	tolerance degree : +- 4.0
guide sleeve	
travel mm : 6.17	control lever
Tolerance mm : $+$ 0.25 +	position degree : 120.0

tolerance degree : + 4.0	†
RATED SPEED rack travel mm : 11.70 Rated speed rpm : 1045 Tolerance 1/min : +- 5 Check	ANEROID/ALTITUDE COMPENSATOR TEST SETTING
speed 1/min : + 10	+
rack travel mm : 4.00 - Rated speed rpm : 1235 - Tolerance 1/min : + 15 - Check - speed 1/min : +- 20	Rated speed rpm : 500 Pressure hPa : 1500 rack travel mm : 12.70 Tolerance mm : +- 0.05 Rated speed rpm : 500
rack travel num : 0.50 - Tolerance num : +- 0.50 - Rated speed rpm : 1350 -	Pressure hPa : - rack travel mm : 10.80 Tolerance mm : + 0.20 MEASUREMENT
LOW IDLE	Rated speed rpm : 500 Pressure hPa : 380 rack travel mm : 11.25 Tolerance mm : +- 0.15
control lever position degree : 37.0 tolerance degree : +- 4.0 control lever	Pressure hPa : 750 rack travel mm : 12.15 Tolerance mm : +- 0.05
position degree : 25.0 - tolerance degree : +- 4.0 -	Start interlock
Setting point w/out bumper spring	Rated speed rpm : < 170 Rated speed rpm : > 100
Rated speed rpm : 150	Check
CRT mm min. : > 9.80	speed 1/min : < 190 Check
Testing:	speed 1/min : > 80
Rated speed rpm : 250 - rack travel mm : 7.50 - rolerance mm : + 0.10 - rolerance mm	FUEL DELIVERY CHARACTERISTICS
Rated speed rpm : 300	Aneroid pressure hPa : 1500 Rated speed rpm : 1000
TORQUE CONTROL Rated speed rpm : 600 rack travel mm : 12.70 Tolerance mm : + 0.05 Rated speed rpm : 1000 rack travel mm : 12.70 Tolerance mm : + 0.10	Del. quantity cm3/1000 strokes : 290.0 Tolerance cm3/1000 strokes : +- 4.0 Check tolerance cm3/1000S. : +- 8.0
-	Aneroid pressure hPa : - Rated speed rpm : 500

Del. quantity cm3/1000 strokes : 210.0

Tolerance

cm3/1000 strokes : +-1.0

Check tolerance

cm3/1000s. 6.0

STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 20.50

Tolerance mm : + 0.50

Del. quantity

cm3/1000 strokes : 265.0

Tolerance

cm3/1000 strokes : +- 20.0

Check tolerance

cm3/1000s. : +- 24.0

LOW IDLE

Rated speed rpm : 250

Rack travel in mm : 7.50 Tolerance mm 0.10

Del. quantity cm3/1000 strokes : 40.0

Tolerance

cm3/1000 strokes : +- 3.0

Check tolerance

cm3/1000s. : +- 6.0

Spreed

Tolerance

cm3/1000 strokes : 4.0

Check tolerance

cm3/1000s. 8.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 14.03.97 Edition Test oil : ISO 4113

Combination No. : 0 402 946 016

Injection pump

Pump designation : PES6P120A320RS8038 EP type number : 0 412 926 025

Governor

Governer design. : RQV250...1000PA1239

: -1

: 0 421 814 158 Governer no.

Cust. part No. : 1369528

Customer-spec. information Customer : SCANIA Motor : DSC 912

TEST BENCH REQUIREMENTS

Inlet line : EHAB

Test oil inlet

temp. °C 40 Tolerance °C

Overflow valve : 2 417 413 082

Inlet press. bar : 2.5
Tolerance bar : + 0.1

Overflow quantity

min. l/h : 110 Tolerance l/h : + 20.0

Test nozzle holde assembly : 1 688 901 104

Opening pressure

: 251.5 bar Tolerance bar : + 1.5 Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar: 26.0 Tolerance bar : + 1.0

Prestroke mm : 4.00 Tolerance mm : + 0.05

Check

tolerance mm : **←** 0.10

Rack travel in mm : 20.50 Tolerance mm : + 0.50

: 1-5-3-6-2-Firing order

: 4

Phasing : 0-60-120-180-240

: -360

Tolerance : + 0.50

Check

tolerance °NW : + 0.75

Start of delivery blocking

: +- 0.50 Tolerance

Check

: +- 0.75 tolerance *NW

: 1 Barrel no.

BASIC SETTING

		<u></u>
Rack travel in m Tolerance mm	n: 12.80 : +- 0.05	Rated speed rpm : 322 guide sleeve travel mm : 2.58
Del. quantity cm3/1000 strokes	: 292.0	Tolerance mm : +- 0.25
Tolerance cm3/1000 strokes	; + 1.0	Rated speed rpm : 372 guide sleeve travel mm : 3.27
Check tolerance		Tolerance mm : +- 0.25
cm3/1000s.	: +- 9.0	Rated speed rpm : 470 guide sleeve
Spreed		travel mm : 4.09 Tolerance mm : +- 0.25
Tolerance cm3/1000 strokes	: 8.0	Rated speed rpm : 1470 guide sleeve
Check tolerance cm3/1000s.	: 12.0	travel mm : 11.50 Tolerance mm : +- 0.50
Rated speed rpm	: 250	+ GUIDE SLEEVE POSITION
Rack travel in mm	n: 7.50	t control lever
Tolerance mm	": +- 0.10	position degree : - 1
Del. quantity		Rated speed rpm : 1290
cm3/1000 strokes	: 40.0	+
Tolerance		+ Rack travel in mm : 11.30
cm3/1000 strokes	: +- 3.0	Tolerance mm : +- 1.50
Check tolerance		+
cm3/1000S.	: +- 6.0	
Spreed	: +- 6.0	FULL LOAD DELIVERY AT FULL LOAD STOP
Spreed Tolerance		+
Spreed Tolerance cm3/1000 strokes		Rated speed rpm : 600
Spreed Tolerance cm3/1000 strokes Check tolerance	: 4.0	Rated speed rpm : 600 Aneroid pressure
Spreed Tolerance cm3/1000 strokes		Rated speed rpm : 600 Aneroid pressure hPa : 1500
Spreed Tolerance cm3/1000 strokes Check tolerance	: 4.0	Rated speed rpm : 600 Aneroid pressure hPa : 1500 Del. quantity
Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: 4.0 : 8.0	Rated speed rpm : 600 Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 292.0
Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000S. (B) SETTING OF IN	: 4.0 : 8.0	Rated speed rpm : 600 Aneroid pressure hPa : 1500 Del. quantity
Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: 4.0 : 8.0	Rated speed rpm : 600 Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 292.0 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance
Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000S. (B) SETTING OF IN WITH GOVERNOR	: 4.0 : 8.0 JECTION PUMP	Rated speed rpm : 600 Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 292.0 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 9.0
Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000S. (B) SETTING OF IN	: 4.0 : 8.0 JECTION PUMP	Rated speed rpm : 600 Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 292.0 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 9.0 Spreed
Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s. (B) SETTING OF IN WITH GOVERNOR GUIDE SLEEVE TRAV	: 4.0 : 8.0 NJECTION PUMP	Rated speed rpm : 600 Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 292.0 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 9.0 Spreed Tolerance
Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s. (B) SETTING OF IN WITH GOVERNOR GUIDE SLEEVE TRAV	: 4.0 : 8.0 JECTION PUMP	Rated speed rpm : 600 Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 292.0 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 9.0 Spreed Tolerance cm3/1000 strokes : 8.0
Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s. (B) SETTING OF IN WITH GOVERNOR GUIDE SLEEVE TRAV Rated speed rpm guide sleeve	: 4.0 : 8.0 NJECTION PUMP	Rated speed rpm : 600 Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 292.0 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 9.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance
Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s. (B) SETTING OF IN WITH GOVERNOR GUIDE SLEEVE TRAV Rated speed rpm guide sleeve travel mm	: 4.0 : 8.0 NJECTION PUMP /EL : 1057 : 7.89	Rated speed rpm : 600 Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 292.0 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 9.0 Spreed Tolerance cm3/1000 strokes : 8.0
Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s. (B) SETTING OF IN WITH GOVERNOR GUIDE SLEEVE TRAV Rated speed rpm guide sleeve	: 4.0 : 8.0 NJECTION PUMP	Rated speed rpm : 600 Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 292.0 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 9.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance
Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s. (B) SETTING OF IN WITH GOVERNOR GUIDE SLEEVE TRAV Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm	: 4.0 : 8.0 NJECTION PUMP /EL : 1057 : 7.89	Rated speed rpm : 600 Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 292.0 Tolerance cm3/1000strokes : +- 1.0 Check tolerance cm3/1000s. : +- 9.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000 strokes : 12.0
Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s. (B) SETTING OF IN WITH GOVERNOR GUIDE SLEEVE TRAV Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve	: 4.0 : 8.0 NJECTION PUMP VEL : 1057 : 7.89 : + 0.15 : 250	Rated speed rpm : 600 Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 292.0 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 9.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance
Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s. (B) SETTING OF IN WITH GOVERNOR GUIDE SLEEVE TRAV Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm	: 4.0 : 8.0 DJECTION PUMP VEL : 1057 : 7.89 : + 0.15 : 250 : 1.33	Rated speed rpm : 600 Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 292.0 Tolerance cm3/1000strokes : +- 1.0 Check tolerance cm3/1000s. : +- 9.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000 strokes : 12.0 CONTROL LEVER
Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s. (B) SETTING OF IN WITH GOVERNOR GUIDE SLEEVE TRAV Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve	: 4.0 : 8.0 NJECTION PUMP VEL : 1057 : 7.89 : + 0.15 : 250 : 1.33	Rated speed rpm : 600 Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 292.0 Tolerance cm3/1000s strokes : +- 1.0 Check tolerance cm3/1000s. : +- 9.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000 strokes : 12.0 CONTROL LEVER control lever
Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s. (B) SETTING OF IN WITH GOVERNOR GUIDE SLEEVE TRAV Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm Rated speed rpm Rated speed rpm Rated speed rpm	: 4.0 : 8.0 DJECTION PUMP VEL : 1057 : 7.89 : + 0.15 : 250 : 1.33	Rated speed rpm : 600 Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 292.0 Tolerance cm3/1000s strokes : +- 1.0 Check tolerance cm3/1000s. : +- 9.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000 strokes : 12.0 CONTROL LEVER control lever
Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s. (B) SETTING OF IN WITH GOVERNOR GUIDE SLEEVE TRAV Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Tolerance mm	: 4.0 : 8.0 SJECTION PUMP VEL : 1057 : 7.89 : + 0.15 : 250 : 1.33 : + 0.20	Rated speed rpm : 600 Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 292.0 Tolerance cm3/1000strokes : +- 1.0 Check tolerance cm3/1000s. : +- 9.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000 strokes : 12.0 CONTROL LEVER control lever position degree : 57.0

tolerance degree	: 4.0	†
RATED SPEED rack travel mm Rated speed rpm Tolerance 1/min Check speed 1/min	: 1045	ANEROID/ALTITUDE COMPENSATOR TEST SETTING
Speed (7)		Rated speed rpm : 500
rack travel mm Rated speed rpm Tolerance 1/min Check	: 1225	Pressure hPa : 1500 - rack travel mm : 12.80 - Tolerance mm : +- 0.05
speed 1/min	: +- 20	Rated speed rpm : 500
rack travel mm Tolerance mm Rated speed rpm	: +- 0.50	Pressure hPa : - rack travel mm : 10.80 Tolerance mm : +- 0.20 MEASUREMENT
		Rated speed rpm : 500
LOW IDLE		Pressure hPa : 250 rack travel mm : 11.30 Tolerance mm : + 0.15
control lever	67.0	† Danasana kBa
position degree		Pressure hPa : 620 rack travel mm : 12.30
tolerance degree	: +- 4.0	+ rack travel mm : 12.30 + Tolerance mm : +- 0.05
control lever		Total alice and
position degree	: 25.0	
tolerance degree		+ Start interlock
Setting point w/o	out bumper spring	Rated speed rpm : > 100 Rated speed rpm : < 170
Rated speed rpm	: 150	Check
CRT mm min.	: > 9.70	speed 1/min : > 80 Check
Testing:		speed 1/min : < 190
Rated speed rpm rack travel mm Tolerance mm	: 250 : 7.50 : +- 0.10	FUEL DELIVERY CHARACTERISTICS
Rated speed rpm	: 300	Aneroid pressure hPa : 1500 Rated speed rpm : 1000
TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm Rated speed rpm	: 12.80 : + 0.05 : 1000	Del. quantity cm3/1000 strokes : 282.0 Tolerance cm3/1000 strokes : +- 4.0 Check tolerance cm3/1000s. : +- 9.0
rack travel mm Tolerance mm	: 12.80 : +- 0.05	Aneroid pressure hPa : - Rated speed rpm : 500

Del. quantity cm3/1000 strokes : 210.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : +- 6.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.50
Tolerance mm : + 0.50
Del. quantity
cm3/1000 strokes : 260.0
Tolerance
cm3/1000 strokes : + 20.0
Check tolerance
cm3/1000s. : + 24.0

LOW IDLE

Rated speed rpm : 250 7.50 Rack travel in mm : Tolerance mm 0.10 Del. quantity 40.0 cm3/1000 strokes : Tolerance cm3/1000 strokes : +-3.0 Check tolerance cm3/1000s. 6.0 Spreed Tolerance cm3/1000 strokes : 4.0 Check tolerance cm3/1000s. 8.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 22.03.96 Test oil : ISO 4113

Combination No. : 0 402 946 017

Injection pump

Pump designation : PES6P120A720RS8039 EP type number : 0 412 926 026

Governor

Governer design. : RQV250...950PA1243

Governer no. : 0 421 814 162

Cust. part No. : 1374808

Customer—spec. information Customer : SCANIA Motor : DSC 11.79

TEST BENCH REQUIREMENTS

Inlet line : EHAB

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 2 417 413 082

Inlet press. bar : 2.5
Tolerance bar : + 0.1

Overflow quantity

min. l/h : 115 Tolerance l/h : +- 10.0

Test nozzle holde

assembly : 1 688 901 104

Opening pressure

bar : 251.5 Tolerance bar : + 1.5 Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter: 2.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 4.15 Tolerance mm : + 0.05

Check

tolerance mm : + 0.10

Rack travel in mm : 20.50 Tolerance mm : + 0.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : + 0.50

Check

tolerance °NW : + 0.75

Start of delivery blocking

Tolerance : + 0.50

Check

tolerance °NW : + 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 700

700

	1
Rack travel in mm : 11.90	Rated speed rpm : 470
Tolerance mm : +- 0.05	+ guide sleeve + travel mm : 4.09
Del. quantity	+ Tolerance mm : +- 0.25
cm3/1000 strokes : 298.0	+
	+ Rated speed rpm : 1260
Tolerance cm3/1000 strokes : +- 1.0	+ guide sleeve + travel mm : 11.50
CIII37 (OUC Strokes . 4- 1.0	+ Tolerance mm : +- 0.50
Check tolerance	+
cm3/1000s. : +- 9.0	
On a seed	+ GUIDE SLEEVE POSITION
Spreed	Ī
Tolerance	+ control lever
cm3/1000 strokes : 8.0	position degree : - 1
	+ Rated speed rpm : 1165
Check tolerance cm3/1000s. : 14.0	+ Rack travel in mm : 10.90
(11137 (10003) : 14.0	+ Tolerance mm : +- 1.30
	+
	+
Rated speed rpm : 250	FULL LOAD DELIVERY AT FULL LOAD STOP
Rack travel in mm : 5.60	Rated speed rpm : 700
Tolerance mm : +- 0.10	+ Aneroid pressure
Del. quantity	+ hPa : 1500
cm3/1000 strokes : 21.0	+ Del. quantity
Tolerance cm3/1000 strokes : +- 3.0	+ cm3/1000 strokes : 298.0 + Tolerance
Check tolerance	+ cm3/1000 strokes : +- 1.0
cm3/1000s. : +- 6.0	+ Check tolerance
Spreed	+ cm3/1000s. : + 9.0
Tolerance	+ Spreed
cm3/1000 strokes : 4.0	+ Tolerance + cm3/1000 strokes : 8.0
Check tolerance cm3/1000s. : 8.0	+ Check tolerance
. 0.0	+ cm3/1000s. : 14.0
	+
(B) SETTING OF INJECTION PUMP	+
WITH GOVERNOR	CONTROL LEVER
	T CONTROL ELVER
GUIDE SLEEVE TRAVEL	control lever
	+ position degree : 55.0
Rated speed rpm : 1008	tolerance degree : +- 4.0
guide sleeve travel mm : 8.61	t control lever
Tolerance mm : +- 0.15	position degree : 119.0
	tolerance degree : +- 4.0
Rated speed rpm : 250	T PATES OFFE
guide sleeve travel mm : 1.33	+ RATED SPEED + rack travel mm : 10.90
travel mm : 1.33 Tolerance mm : + 0.20	+ Rated speed rpm : 995
1000 mm 1 0120	+ Tolerance 1/min : +- 5
Rated speed rpm : 732	+ Check
guide sleeve	+ speed 1/min : +- 10
travel mm : 6.35 Tolerance mm : + 0.25	+ rack travel mm : 4.00
Tolerance mm : +- 0.25	T Tack Clavec IIIII . 4.00

Rated speed rpm Tolerance 1/min Check speed 1/min	: +- 15 : +- 20	Pressure hPa rack travel mm Tolerance mm MEASUREMENT	: - : 9.20 : +- 0.20
rack travel mm Tolerance mm	: +- 0.50	+ Rated speed rpm	: 500
Rated speed rpm	: 1200	Pressure hPa rack travel mm Tolerance mm	: 350 : 10.30 : + 0.15
LOW IDLE		Pressure hPa rack travel mm Tolerance mm	: 11.40
control lever position degree tolerance degree	: 81.0 : + 4.0	Start interlock	
control lever position degree tolerance degree	: 17.0 : + 4.0	Rated speed rpm Rated speed rpm	
Setting point w/o		Check speed 1/min	: > 80
Rated speed rpm	: 150	+ Check + speed 1/min	: < 190
CRT mm min.	: > 8.10	FUEL DELIVERY CHA	RACTERISTICS
Testing:		+	
Rated speed rpm rack travel mm Tolerance mm Rated speed rpm	: 5.60 : + 0.10	Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance	
TORQUE CONTROL Rated speed rpm rack travel mm	: 700 : 11.90	cm3/1000 strokes Check tolerance cm3/1000s.	: ← 4.0 : ← 9.0
Tolerance mm	: + 0.05		
Rated speed rpm rack travel mm Tolerance mm		+ Aneroid pressure + hPa - Rated speed rpm - Del. quantity	: - : 500
		cm3/1000 strokes Tolerance	: 197.0
ANEROID/ALTITUDE COMPENSATOR TEST		cm3/1000 strokes Check tolerance cm3/1000s.	: +- 1.0 : +- 4.0
SETTING		+	
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 500 : 1500 : 11.90 : +- 0.05	STARTING FUEL DEL Rated speed rpm rack travel mm Tolerance mm	: 100 : 20.50 : +- 0.50
		INTERSORE MM	

Del. quantity cm3/1000 strokes : 225.0 Tolerance cm3/1000 strokes : +- 20.0

Check tolerance cm3/1000s. : +- 24.0

LOW IDLE

Rated speed rpm : 250

Rack travel in mm: 5.60
Tolerance mm: +- 0.10
Del. quantity

cm3/1000 strokes : 21.0 Tolerance

cm3/1000 strokes : +- 3.0 Check tolerance

cm3/1000s. : +- 6.0 Spreed

Tolerance

cm3/1000 strokes : 4.0

Check tolerance

cm3/1000s. : 8.0

Note remarks

Refer to Service Info for test and adjustment instructions.

See microcard(s) W400/...

: 14.03.97 Edition : ISO 4113 Test oil

Combination No. : 0 402 946 020

Injection pump

Pump designation : PESSP120A320RS8038

EP type number : 0 412 926 025

Governor

Governer design. : RQV250...1000PA1239

: 0 421 814 168 Governer no.

Cust. part No. : 1369545

Customer-spec. information Customer : SCANIA : DSC 9.11 Motor

TEST BENCH REQUIREMENTS

Inlet line : EHAB

Test oil inlet

temp. °C Tolerance °C 2.0

: 2 417 413 082 Overflow valve

Inlet press. bar : Tolerance bar : +- 0.1

Overflow quantity

min. l/h : 115 Tolerance l/h : + 10.0

Test nozzle holde

: 1 688 901 104 assembly

Opening pressure

: 251.5 bar Tolerance bar : +- 1.5 Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm 4.00 : + - 0.05

Check

: +- 0.10 tolerance mm

Rack travel in mm : 20.50 Tolerance mm : +- 0.50

: 1-5-3-6-2-Firing order

: 0-60-120-180-240 Phasing

: -300

: + - 0.50Tolerance

Check

tolerance °NW : +- 0.75

Start of delivery blocking

: +- 0.50 Tolerance

Check

: +- 0.75 tolerance °NW

Barrel no. : 1

BASIC SETTING

	+
Rack travel in mm : 12.30 - Tolerance mm : + 0.05 -	Rated speed rpm : 470 guide sleeve
TOTAL MATERIAL TANA MATERIAL TOTAL MATERIAL TOTAL MATERIAL TOTAL MATERIAL TOTAL M	† travel mm : 4.09
Del. quantity	Tolerance mm : +- 0.25
cm3/1000 strokes : 277.0	† + Rated speed rpm : 1470
Tolerance	guide sleeve
cm3/1000 strokes : + 1.0	travel mm : 11.50
Check to large	Tolerance mm : +- 0.50
Check tolerance cm3/1000s. : +- 9.0	
Vac 100-100-100-100-100-100-100-100-100-100	GUIDE SLEEVE POSITION
Spreed	
Tolerance	control lever
cm3/1000 strokes : 8.0	position degree : - 1
Charle to large and a	Rated speed rpm : 1310
Check tolerance - cm3/1000s. : 12.0 -	† Rack travel in mm : 11.40
(1137 13036)	Tolerance mm : + 1.30
	+
Rated speed rpm : 250	+ FULL LOAD DELIVERY AT FULL LOAD STOP
rated speed (pill . 250	+
Rack travel in mm: 7.20	Rated speed rpm : 600
Tolerance mm : + 0.10	+ Aneroid pressure - hPa : 1500
Del. quantity - cm3/1000 strokes : 40.0 -	Del. quantity
Tolerance	cm3/1000 strokes : 277.0
cm3/1000 strokes : + 3.0	Tolerance
Check tolerance	+ cm3/1000 strokes : +- 1.0 + Check tolerance
cm3/1000s. : + 6.0 - Spreed -	+ cm3/1000s. : +- 9.0
Tolerance -	Spreed
cm3/1000 strokes : 4.0 -	Tolerance
Check tolerance -	cm3/1000 strokes : 8.0
cm3/1000s. : 8.0 -	+ Check tolerance + cm3/1000s. : 12.0
-	1
(B) SETTING OF INJECTION PUMP	
WITH GOVERNOR	CONTROL LEVER
	+
GUIDE SLEEVE TRAVEL	control lever
Rated speed rpm : 1057	position degree : 56.0 tolerance degree : +- 4.0
guide sleeve	toter and degree
travel mm : 7.89	control lever
Tolerance mm : + 0.15	position degree : 118.0
Rated speed rpm : 250	tolerance degree : + 4.0
guide sleeve	RATED SPEED
travel mm : 1.33	rack travel mm : 11.30
Tolerance mm : +- 0.20	Rated speed rpm : 1045 Tolerance 1/min : +- 5
Rated speed rom : 748	Tolerance 1/min : +- 5 Check
guide sleevs	speed 1/min : + 10
travel mm : 6.17	
Tolerance mm : ├─ 0.25	rack travel mm : 4.00

Rated speed rpm Tolerance 1/min Check speed 1/min	: 1225 : + 15 : + 20
rack travel mm Tolerance mm Rated speed rpm	: 0.50 : +- 0.50 : 1350
LOW IDLE	
control lever position degree tolerance degree	: 87.0 : +- 4.0
control lever position degree tolerance degree	: 24.0 : + 4.0
Setting point w/o	out bumper spring
Rated speed rpm	: 150
CRT mm min.	: > 9.70
Testing:	
Rated speed rpm rack travel mm Tolerance mm	: 250 : 7.20 : + 0.10
Rated speed rpm	: 300
TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm	: 600 : 12.30 : + 0.05
Rated speed rpm rack travel mm Tolerance mm	: 1000 : 12.30 : + 0.05
ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 500 : 1500 : 12.30 : + 0.05

Pressure hPa rack travel mm Tolerance mm	: - : 10.80 : +- 0.20
MEASUREMENT	
Rated speed rpm	: 500
Pressure hPa rack travel mm Tolerance mm	: 330 : 11.20 : + 0.15
Pressure hPa rack travel mm Tolerance mm	: 600 : 11.90 : + 0.05
Start interlock	
Rated speed rpm Rated speed rpm	: < 170 : > 100
Check speed 1/min Check	: < 190
speed 1/min	: > 80
Aneroid pressure hPa Rated speed rpm	: 1500 : 1000
Del. quantity cm3/1000 strokes	
Tolerance cm3/1000 strokes	: +- 4.0
Check tolerance cm3/1000s.	: +- 9.0
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes	: – : 500 : 210.0
Tolerance cm3/1000 strokes	: + 1.0
Check tolerance cm3/1000s.	: +- 7.0
STARTING FUEL DEL	IVERY
Rated speed rpm	: 100

Rated speed rpm : 100 rack travel mm : 20.50 Tolerance mm : +- 0.50

Del. quantity cm3/1000 strokes : 275.0 Tolerance cm3/1000 strokes : + 20.0 Check tolerance cm3/1000s. : +- 24.0

LOW IDLE

Rated speed rpm : 250 7.20 Rack travel in mm : : +- 0.10 Tolerance mm Del. quantity cm3/1000 strokes : 40.0 Tolerance cm3/1000 strokes : +- 3.0Check tolerance cm3/1000s. : +- 6.0 Spreed Tolerance cm3/1000 strokes : 4.0 Check tolerance cm3/1000s. 8.0 :

BOSCH INJ. PUMP TEST SPECIFICATIONS Note remarks Refer to Service Info for test and adjustment instructions. See microcard(s) W400/... : 02.06.97 Edition : ISO 4113 Test oil Combination No. : 0 400 866 198 Injection pump Pump designation : PES6A100D320/3RS2763 EP type number : 0 410 806 006 Governor Governer design. : RSV400...950A0C2238 : -4R : 0 420 233 331 Governer no. Cust. part No. : Customer-spec. information Customer : CDC : 6 CT 8.3 Motor Power KW : 145.0 TEST BENCH REQUIREMENTS Inlet line : 2. Test oil inlet temp. °C Tolerance °C : +- 2.0 : 1 419 992 198 Overflow valve Inlet press. bar : 1.5 Test nozzle holde : 1 688 901 101 assembly Opening pressure : 208.5 bar Tolerance bar

x inside diameter: 2.0 x length mm : 600 REMARKS (A) INJECTION PUMP SETTING VALUES Set equal delivery quant. per values _____ BEGINNING OF DELIVERY Test pressure bar : 26.0 Tolerance bar : + 1.0 2.85 Prestroke mm : + 0.05Tolerance mm Check : +- 0.10tolerance mm Rack travel in mm : 10.50 Tolerance mm : +- 1.50 Firing order : 1-5-3-6-2-Phasing : 0-60-120-180-240 : -300 : +- 0.50 Tolerance Check : +- 0.75 tolerance °NW BASIC SETTING Rated speed rpm : 950 Rack travel in mm: 12.15 : +- 0.05 Tolerance mm Del. quantity cm3/1000 strokes : 121.5 Tolerance cm3/1000 strokes : +- 1.0Check tolerance : +-3.5 cm3/1000s. Spreed

Test lines : 1 680 750 014

Outside diameter : 6.0

Tolerance cm3/1000 strokes : 4.0 Check tolerance cm3/1000s. : 6.5	Check tolerance cm3/1000s. : 6.5
tilis/1000s	CONTROL LEVER
Rated speed rpm : 400	<pre>control lever position degree : 96.0 tolerance degree : +- 4.0</pre>
Rack travel in mm: 5.20 Tolerance mm: + 0.10 Del. quantity cm3/1000 strokes: 15.0	RATED SPEED rack travel mm : 11.10 Rated speed rpm : 995 Tolerance 1/min : +- 5
Tolerance + 2.0 + Check tolerance + + + + + + + + + + + + + + + + + + +	rack travel mm : 4.00
cm3/1000s. : +- 4.5 Spreed Tolerance	Rated speed rpm : 1070 Tolerance 1/min : +- 5
cm3/1000 strokes : 6.0 theck tolerance cm3/1000s. : 8.0	rack travel mm : 0.85 Tolerance mm : +- 0.55 Rated speed rpm : 1200
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	rack travel mm : 4.00 Rated speed rpm : 1085 Tolerance 1/min : +- 15
GUIDE SLEEVE POSITION	
	LOW IDLE
control lever position degree : - 3 Rated speed rpm : 800	control lever position degree : 79.0 tolerance degree : +- 4.0
control lever position degree : - 3	control lever position degree : 79.0
control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.50	control lever position degree : 79.0 tolerance degree : +- 4.0
control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension	control lever position degree : 79.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 400 rack travel mm : 4.70 Tolerance mm : + 0.10 Rated speed rpm : 100
control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 2.50 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 950	control lever position degree : 79.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 400 rack travel mm : 4.70 Tolerance mm : + 0.10 Rated speed rpm : 100 CRT mm min. : > 19.00
control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 2.50 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 950 Aneroid pressure hPa : 900	control lever position degree : 79.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 400 rack travel mm : 4.70 Tolerance mm : +- 0.10 Rated speed rpm : 100 CRT mm min. : > 19.00 Testing:
control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 2.50 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 950 Aneroid pressure hPa : 900 Del. quantity cm3/1000 strokes : 121.5 Tolerance	control lever position degree : 79.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 400 rack travel mm : 4.70 Tolerance mm : + 0.10 Rated speed rpm : 100 CRT mm min. : > 19.00
control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 2.50 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 950 Aneroid pressure hPa : 900 Del. quantity cm3/1000 strokes : 121.5	control lever position degree : 79.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 400 rack travel mm : 4.70 Tolerance mm : + 0.10 Rated speed rpm : 100 CRT mm min. : > 19.00 Testing: Rated speed rpm : 400 rack travel mm : 5.20

Rated speed rpm : 950 rack travel mm 12.15 : +~ 0.05 Tolerance mm

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500 Pressure hPa 900 rack travel mm 12.15 Tolerance mm : +- 0.05

Rated speed rpm : 500 Pressure hPa 9.80 rack travel mm : + 0.10Tolerance mm

MEASUREMENT

500 Rated speed rpm :

305 Pressure hPa 11.70 rack travel mm : + 0.20Tolerance mm

220 Pressure hPa 11.20 rack travel mm : +- 0.05 Tolerance mm

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa

500 Rated speed rum

Del. quantity cm3/1000 strokes : 76.5

Tolerance cm3/1000 strokes : + 2.0

Check tolerance cm3/1000s.

STARTING FUEL DELIVERY

Rated speed rpm 100 rack travel mm : 20.25 Tolerance mm : +- 0.75 Del. quantity

cm3/1000 strokes : 160.0

Tolerance

cm3/1000 strokes : + 10.0

Check tolerance

cm3/1000s. : +- 13.0

LOW IDLE

Rated speed rpm : 400

Rack travel in mm : 5.20 Tolerance mm : +-0.10 Del. quantity cm3/1000 strokes : 15.0 Tolerance cm3/1000 strokes : +- 2.0Check tolerance cm3/1000s. 4.5 Spreed Tolerance

cm3/1000 strokes : 6.0

Check tolerance 8.0 cm3/1000s.

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 02.06.97 Test oil : ISO 4113

Combination No. : 0 400 866 236

Injection pump

Pump designation : PES6A100D320/3RS2763

EP type number : 0 410 806 006

Governor

Governer design. : RSV400...950A0C928R

Governer no. : 0 420 233 355

Cust. part No. : 3282448

Customer-spec. information

Customer : CUMMINS

Motor : 6 CT 8.3/195HP

TEST BENCH REQUIREMENTS

Inlet line : 2.

Test oil inlet

temp. °C : 40
Tolerance °C : +- 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

assembly : 1 688 901 101

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 28.0 Tolerance bar : +- 1.0

Prestroke mm : 2.85Tolerance mm : $\leftarrow 0.05$

Check

tolerance mm : +- 0.10

Rack travel in mm : 10.50
Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : \leftarrow 0.50

Check

tolerance °NW : +- 0.75

BASIC SETTING

Rated speed rpm : 950

Rack travel in mm: 12.15

Tolerance mm : +- 0.05

Del. quantity cm3/1000 strokes : 121.5

Tolerance cm3/1000 strokes : +- 1.0

Check tolerance

cm3/1000s. : +- 3.5

Spreed

Tolerance +	· Check tolerance
cm3/1000 strokes : 4.0	cm3/1000s. : 6.5
Check tolerance cm3/1000s. : 6.5	
	CONTROL LEVER
1	control lever
Rated speed rpm : 400	position degree : 96.0 tolerance degree : +- 4.0
Rack travel in mm: 5.20	•
Tolerance mm : +- 0.10 +	RATED SPEED
Del. quantity + cm3/1000 strokes : 15.0 +	rack travel mm : 11.10 Rated speed rpm : 995
Tolerance	Tolerance 1/min : +- 5
cm3/1000 strokes : + 2.0	
Check tolerance	rack travel mm : 4.00
cm3/1000s. : +- 4.5 +	Rated speed rpm : 1070
Spreed	Tolerance 1/min : +- 5
Tolerance + cm3/1000 strokes : 6.0 +	rack travel mm : 0.85
Check tolerance	Tolerance mm : +- 0.55
cm3/1000s. : 8.0	Rated speed rpm : 1200
+	
(B) SETTING OF INJECTION PUMP +	rack travel mm : 4.00 Rated speed rpm : 1085
WITH GOVERNOR	Tolerance 1/min : +- 15
#1111 GOVENNON	
+	
CUITAG OLGOUP DOCUTTON	
GUIDE SLEEVE POSITION	I OW TOLE
GUIDE SLEEVE POSITION	LOW IDLE
GUIDE SLEEVE POSITION control lever	
control lever position degree : FREE	control lever
control lever	control lever position degree : 79.0
control lever position degree : FREE Rated speed rpm : 800	control lever
control lever position degree : FREE	control lever position degree : 79.0
control lever position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : +- 0.20	control lever position degree : 79.0 tolerance degree : +- 4.0 Setting point w/out bumper spring
control lever position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : +- 0.20 governor spring	control lever position degree : 79.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 400
control lever position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : +- 0.20 governor spring pre-tension	control lever position degree : 79.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 400 rack travel mm : 4.70
control lever position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : +- 0.20 governor spring	control lever position degree : 79.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 400
control lever position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : +- 0.20 governor spring pre-tension	control lever position degree : 79.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 400 rack travel mm : 4.70
control lever position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : +- 0.20 governor spring pre-tension	control lever position degree : 79.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 400 rack travel mm : 4.70 Tolerance mm : + 0.10 Rated speed rpm : 100
control lever position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 2.50 FULL LOAD DELIVERY AT FULL LOAD STOP	control lever position degree : 79.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 400 rack travel mm : 4.70 Tolerance mm : + 0.10
control lever position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 2.50 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 950	control lever position degree : 79.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 400 rack travel mm : 4.70 Tolerance mm : + 0.10 Rated speed rpm : 100 CRT mm min. : > 19.00
control lever position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 2.50 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 950 Aneroid pressure	control lever position degree : 79.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 400 rack travel mm : 4.70 Tolerance mm : + 0.10 Rated speed rpm : 100
control lever position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 2.50 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 950 Aneroid pressure hPa : 900 Del. quantity	control lever position degree : 79.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 400 rack travel mm : 4.70 Tolerance mm : +- 0.10 Rated speed rpm : 100 CRT mm min. : > 19.00 Testing: Rated speed rpm : 400
control lever position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 2.50 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 950 Aneroid pressure hPa : 900 Del. quantity cm3/1000 strokes : 121.5	control lever position degree : 79.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 400 rack travel mm : 4.70 Tolerance mm : + 0.10 Rated speed rpm : 100 CRT mm min. : > 19.00 Testing: Rated speed rpm : 400 rack travel mm : 5.20
control lever position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 2.50 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 950 Aneroid pressure hPa : 900 Del. quantity cm3/1000 strokes : 121.5 Tolerance	control lever position degree : 79.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 400 rack travel mm : 4.70 Tolerance mm : +- 0.10 Rated speed rpm : 100 CRT mm min. : > 19.00 Testing: Rated speed rpm : 400
control lever position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 2.50 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 950 Aneroid pressure hPa : 900 Del. quantity cm3/1000 strokes : 121.5 Tolerance cm3/1000 strokes : + 1.0	control lever position degree : 79.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 400 rack travel mm : 4.70 Tolerance mm : + 0.10 Rated speed rpm : 100 CRT mm min. : > 19.00 Testing: Rated speed rpm : 400 rack travel mm : 5.20 Tolerance mm : + 0.10
control lever position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 2.50 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 950 Aneroid pressure hPa : 900 Del. quantity cm3/1000 strokes : 121.5 Tolerance	control lever position degree : 79.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 400 rack travel mm : 4.70 Tolerance mm : + 0.10 Rated speed rpm : 100 CRT mm min. : > 19.00 Testing: Rated speed rpm : 400 rack travel mm : 5.20
control lever position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : +- 0.20 governor spring pre-tension click setting x : 2.50 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 950 Aneroid pressure hPa : 900 Del. quantity cm3/1000 strokes : 121.5 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance	control lever position degree : 79.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 400 rack travel mm : 4.70 Tolerance mm : + 0.10 Rated speed rpm : 100 CRT mm min. : > 19.00 Testing: Rated speed rpm : 400 rack travel mm : 5.20 Tolerance mm : + 0.10 rack travel mm : 5.20 Tolerance mm : + 0.10
control lever position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 2.50 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 950 Aneroid pressure hPa : 900 Del. quantity cm3/1000 strokes : 121.5 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 3.5 Spreed Tolerance	control lever position degree : 79.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 400 rack travel mm : 4.70 Tolerance mm : + 0.10 Rated speed rpm : 100 CRT mm min. : > 19.00 Testing: Rated speed rpm : 400 rack travel mm : 5.20 Tolerance mm : + 0.10 rack travel mm : 5.20 Tolerance mm : 400 rack travel mm : 5.20 Tolerance mm : 400 rack travel mm : 5.20 Tolerance mm : 400
control lever position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : +- 0.20 governor spring pre-tension click setting x : 2.50 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 950 Aneroid pressure hPa : 900 Del. quantity cm3/1000 strokes : 121.5 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 3.5 Spreed	control lever position degree : 79.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 400 rack travel mm : 4.70 Tolerance mm : + 0.10 Rated speed rpm : 100 CRT mm min. : > 19.00 Testing: Rated speed rpm : 400 rack travel mm : 5.20 Tolerance mm : + 0.10 rack travel mm : 5.20 Tolerance mm : 400 rack travel mm : 5.20 Tolerance mm : 400 rack travel mm : 5.20 Tolerance mm : 400

Rated speed rpm : 950 rack travel mm : 12.15 : +- 0.05 Tolerance mm

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500 Pressure hPa 900 12.15 rack travel mm : +- 0.05 Tolerance mm

Rated speed rpm : 500 Pressure hPa ; rack travel mm : 9.80 Tolerance mm : +- 0.10

MEASUREMENT

Rated speed rpm : 500

Pressure hPa : 305 Tolerance mm : +- 0.20

Pressure hPa : 220 rack travel mm : 11.20 Tolerance mm : + 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa Rated speed rpm : 500

Del. quantity

cm3/1000 strokes : 76.5 Tolerance

cm3/1000 strokes : + 2.0

Check tolerance : +- 4.5 cm3/1000s.

STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 20.5 20.50 : + 1.00 Tolerance mm Del. quantity cm3/1000 strokes : 160.0

Tolerance

cm3/1000 strokes : + 10.0

Check tolerance

cm3/1000s. : +- 13.0

LOW IDLE

cm3/1000s.

Rated speed rpm : 400

Rack travel in mm: 5.20 Tolerance mm : \leftarrow 0.10 Del. quantity cm3/1000 strokes : 15.0 Tolerance

cm3/1000 strokes : +- 2.0Check tolerance

cm3/1000s. : +- 4.5 Spreed Tolerance

cm3/1000 strokes : 6.0 Check tolerance 8.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 18.06.97 Test oil : ISO 4113

Combination No. : 0 400 836 044

Injection pump

Pump designation : PES6A100D320/3RS2691

: -2

EP type number : 9 410 230 028

Governor

Governer design. : RQV350...1200AB1245

: -1R

Governer no. : 0 420 213 132

Cust. part No. :

Customer-spec. information Customer : CUMMINS Motor : 6CT8.3 Power KW : 138.0

TEST BENCH REQUIREMENTS

Inlet line : 2

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 2.0 Tolerance bar : + 0.1

Test nozzle holde

assembly : 1 688 901 101

Opening pressure

bar : 208.5 Tolerance bar : +- 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Start of delivery mark

*NW after s.o.d. : 10.00 Tolerance : +- 0.50

Check

tolerance °NW : + 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1200

Rack travel in mm : 10.00 Tolerance mm : +- 0.05

Del. quantity

cm3/1000 strokes : 102.0

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance

cm3/1000s. : +- 3.0

Spreed

Tolerance

cm3/1000 strokes : 3.5

3.3

Check tolerance - cm3/1000s. : 8.0 -	L Dools travel in an a 14 50
cm3/1000s. : 8.0 -	+ Rack travel in mm : 16.50 + Tolerance mm : +- 1.30
-	†
Rated speed rpm : 350	FULL LOAD DELIVERY AT FULL LOAD STOP
Rack travel in mm: 4.60 -	Rated speed rpm : 1000
Tolerance mm : +- 0.10	Aneroid pressure
Del. quantity - cm3/1000 strokes : 19.0 -	hPa : - Del. quantity
Tolerance	cm3/1000 strokes : 102.0
cm3/1000 strokes : +- 2.0 Check tolerance	Tolerance : +- 1.0
cm3/1000s. : +- 4.5	Check tolerance
Spreed	+ cm3/1000s. : +- 3.0
Tolerance cm3/1000 strokes : 5.5	Spreed Tolerance
Check tolerance	- cm3/1000 strokes : 3.5
cm3/1000s. : 9.0	Check tolerance cm3/1000s. : 8.0
- -	- (11137 10003 8.0
(B) SETTING OF INJECTION PUMP	
WITH GOVERNOR	CONTROL LEVER
	}
GUIDE SLEEVE TRAVEL	control lever
Rated speed rpm : 1200	position degree : 44.0 tolerance degree : +- 4.0
guide sleeve	-
travel mm : 6.90 -	RATED SPEED : 9.00
Rated speed rpm : 250	Rated speed rpm : 1245
guide sleeve	Tolerance 1/min : +- 5
travel mm : 0.10 - Tolerance mm : + 0.10 -	rack travel mm : 4.00
Total ance may	Rated speed rpm : 1330
Rated speed rpm : 350	Tolerance 1/min : +- 15
guide sleeve - travel mm : 1.25 -	rack travel mm : 0.50
Tolerance mm : + 0.25	Tolerance mm : +- 0.50
Rated speed rpm : 450	Rated speed rpm : 1400
guide sleeve	
travel mm : 2.15	
Tolerance mm : +- 0.25	- LOW IDLE
Rated speed rpm : 1350	2011 2022
guide sleeve + travel mm : 8.45 +	control lever
travel mm : 8.45 - Tolerance mm : +- 0.25	position degree : 13.0
	tolerance degree : +- 4.0
GUIDE SLEEVE POSITION	- Setting point w/out bumper spring
SOLDE SEELAE LOSTITON	
	Rated speed rpm : 100
control lever position degree : - 1	- CRT mm min. :> 9.00
Rated speed rpm : 1250	
4	- Testina:

Testing:

Rated speed rpm : 350 rack travel mm : 4.60 : ← 0.10 Tolerance mm 2.00 rack travel mm 540 Rated speed rpm Tolerance 1/min 30 TORQUE CONTROL 1200 Rated speed rpm : 10.00 rack travel mm : ← 0.05 Tolerance mm Start interlock Rated speed rpm : > 100 Rated speed rpm : < 290 Check speed 1/min : > 80 Check speed 1/min : < 300 STARTING FUEL DELIVERY 100 Rated speed rpm : rack travel mm : 20.00 Tolerance mm : +- 1.00 Del. quantity cm3/1000 strokes : 161.0 Tolerance cm3/1000 strokes : + 7.5 Check tolerance cm3/1000s. : +- 10.0 LOW IDLE 350 Rated speed rpm : 4.60 Rack travel in mm : : +- 0.10 Tolerance mm Del. quantity cm3/1000 strokes : 19.0 Tolerance cm3/1000 strokes : +-2.0 Check tolerance cm3/1000s. Spreed Tolerance 5.5 cm3/1000 strokes :

Check tolerance cm3/1000s. : 9.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 17,08,96 Edition : ISO 4113 Test oil

Combination No. : 0 400 844 047

Injection pump

Pump designation : PES4A90D410RS2294 EP type number : 0 410 894 011

Governor

Governer design. : RQV300...1425AB740L

Governer no. : 0 420 212 037

Cust. part No.

Customer-spec. information Customer : MB-NFZ : OM 314 Motor 62.5 Power KW

TEST BENCH REQUIREMENTS

Inlet line : 1.2

Test oil inlet

temp. °C Tolerance °C 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

: 0 681 343 009 assembly

Opening pressure

173.5 Tolerance bar : +- 1.5

: 1 680 750 014 Test lines

6.0 Outside diameter :

x inside diameter : 2.0 600 x Length mm

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

: 1-3-4-2 Firing order

: 0-90-180-270 Phasina

Tolerance : +- 0.50

Check

tolerance °NW : +- 0.75

BASIC SETTING

Del. quantity cm3/1000 strokes : 63.0

Tolerance

cm3/1000 strokes : +- 0.5

Check tolerance

cm3/1000s. 2.5

Spreed

Tolerance

cm3/1000 strokes : 3.0

Check tolerance

4.5 cm3/1000s.

Rated speed rpm : 300

Rack travel in mm : 7.30 : +- 0.10 Tolerance mm

Del. quantity

cm3/1000 strokes : 12.0

Tolerance

cm3/1000 strokes : +- 3.0

Check tolerance Tolerance : +- 5.0 cm3/1000S. cm3/1000 strokes : +-Spreed Check tolerance cm3/1000s. Tolerance cm3/1000 strokes : 2.0 Spreed Check tolerance Tolerance cm3/1000S. 4.0 Check tolerance cm3/1000s. (B) SETTING OF INJECTION PUMP WITH GOVERNOR CONTROL LEVER GUIDE SLEEVE TRAVEL control lever 550 Rated speed rpm quide sleeve travel mm 2.85 RATED SPEED : + - 0.15Tolerance mm rack travel mm Rated speed rpm : 1460 guide sleeve 8.50 travel mm : + - 0.10Tolerance mm rack travel mm : 950 Rated speed rpm guide sleeve 5.35 travel mm Tolerance mm : + 0.15 : 775 Rated speed rpm guide sleeve 4.35 travel mm : +- 0.25 Tolerance mm LOW IDLE Rated speed rpm 300 guide sleeve 0.95 control lever travel mm : +- 0.25 Tolerance mm GUIDE SLEEVE POSITION control lever position degree : - 1 Rated speed rpm : 1420 Testing: Rack travel in mm: 16.50 Tolerance mm : +- 1.30 Rated speed rpm : rack travel mm Toterance mm FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1400 Aneroid pressure hPa Del. quantity cm3/1000 strokes : 63.0

2.5 : +cm3/1000 strokes : 3.0 4.5 position degree : 118.0 tolerance degree : + 4.0 8.70 Rated speed rpm : 1460 Tolerance 1/min : + 4.00 Rated speed rpm : Tolerance 1/min : +- 15 Rated speed rpm : 1700 70.0 position degree : tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 100 CRT mm min. :> 8.80 300 7.30 : + 0.10Rated speed rpm : 445 Start interlock

0.5

Rated speed rp Rated speed rp		100 220
Check speed 1/min	; >	80
Check speed 1/min	: <	240

STARTING FUEL DELIVERY

Rated speed rpm rack travel mm Tolerance mm	:	+	100 14.00 0.30
Del. quantity	•	—	0,30
cm3/1000 strokes	:		76.0
Tolerance cm3/1000 strokes	:	+-	5.0
Check tolerance cm3/1000s.	:	+-	8.0

LOW IDLE

Rated speed rpm	:		300	
Rack travel in mm Tolerance mm Del. quantity		+-	7.30 0.10	
cm3/1000 strokes	:		12.0	
Tolerance cm3/1000 strokes	:	+-	3.0	
Check tolerance cm3/1000S. Spreed	:	+	5.0	
Tolerance	:		2.0	
cm3/1000s.	:		4.0	

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 06,06.95 : ISO 4113 Test oil

Combination No. : 0 400 844 094

Injection pump

Pump designation : PES4A90D410RS2666 EP type number : 0 410 894 029

Governor

Governer design. : RQV300...1400AB1065

: -12L

: 0 420 212 207 Governer no.

Cust. part No. :

Customer-spec. information : MB-NFZ Customer Motor : 0M364 Power KW : 61.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C : +- 2.0 Tolerance °C

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

: 0 681 343 009 assembly

Opening pressure

173.5 bar Tolerance bar : +- 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0 x inside diameter : 1.5 : 600 x length mm

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Firing order : 1- 3- 4- 2

Phasing : 0-90-180-270

BASIC SETTING

Rated speed rpm : 1400

Rack travel in mm : 10.55 : +- 0.05

Tolerance mm

Del. quantity cm3/1000 strokes : 59.5

Tolerance cm3/1000 strokes : +- 0.5

Check tolerance cm3/1000s. : **←** 2.5

Spreed

Tolerance

cm3/1000 strokes : 3.0

Check tolerance

cm3/1000s. 5.0

Rated speed rpm : 300

Rack travel in mm : 8.70 Tolerance mm : \leftarrow 0.10

Del. quantity	
cm3/1000 strokes	: 10.0
Tolerance cm3/1000 strokes	: +- 2,0
Check tolerance	. 1 = 2.0
cm3/1000s.	: +- 4.0
Spreed	
Tolerance	: 2.0
cm3/1000 strokes Check tolerance	: 2.0
cm3/1000s.	: 4.0
(B) SETTING OF IN	IECTION PUMP
WITH GOVERNOR	SECTION FOR
GUIDE SLEEVE TRAV	El
GOIDE SEELAE IKAA	
Rated speed rpm	: 1500
guide sleeve	: 8.55
travel mm Tolerance mm	: 8.55 : +- 0.05
Rated speed rpm	: 300
guide sleeve travel mm	: 1.05
Tolerance mm	: + 0.25
Rated speed rpm	: 500
guide sleeve travel mm	: 2.55
Tolerance mm	: + 0.25
Rated speed rpm	: 750
guide sleeve travel mm	: 4.20
Tolerance mm	: +- 0.10
FULL LOAD DELTVED	Y AT FULL LOAD STOP
TOLL LOAD DELIVER	1 AT TOLL LOAD STOT
Rated speed rpm	: 1400
Aneroid pressure hPa	•
Del. quantity	: -
cm3/1000 strokes	: 59.5
Tolerance	
cm3/1000 strokes	: +- 0.5
Check tolerance cm3/1000s.	: - 2.5
Spreed	
Tolerance	
cm3/1000 strokes	: 3.0
Check tolerance cm3/1000s.	: 5.0
CHIJ/ TUUUS.	

control lever position degree tolerance degree	: 116.0 : +- 4.0
RATED SPEED rack travel mm Rated speed rpm Tolerance 1/min	: 1445
rack travel mm Rated speed rpm Tolerance 1/min	: 4.00 : 1550 : + 15
rack travel mm Tolerance mm Rated speed rpm	: 0.50 : +- 0.50 : 1700
LOW IDLE	
control lever position degree tolerance degree	: 76.0 : +- 4.0
Setting point w/o	ut bumper spring
Rated speed rpm	: 100
CRT mm min.	: > 10.20
Testing:	
Rated speed rpm rack travel mm Tolerance mm	: 300 : 8.70 : + 0.10
Rated speed rpm	: 610
TORQUE CONTROL	
Dimension a mm Rated speed rpm rack travel mm Tolerance mm	: 1.00 : 1400 : 10.55 : + 0.05
Rated speed rpm	: 475 : 11.55
rack travel mm Tolerance mm	: ← 0.05

Start interlock		
Rated speed rpm Rated speed rpm	: >	100 220
Check speed 1/min Check	; >	80
speed 1/min	; <	240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure			
hPa	:		-
Rated speed rpm	:		475
Del. quantity			
cm3/1000 strokes	:		46.0
Tolerance			
cm3/1000 strokes	:	+-	1.0
Check tolerance			
cm3/1000s.	:	+-	3.5

Aneroid pressure		_	
hPa	:		-
Rated speed rpm	:		850
Del. quantity			
cm3/1000 strokes	:		49.0
Tolerance			
cm3/1000 strokes	:	+-	1.5
Check tolerance			
cm3/1000s.	:	+-	4.0

STARTING FUEL DELIVERY

Rated speed rpm rack travel mm Tolerance mm	•	100 17.20 0.20
Del. quantity cm3/1000 strokes Tolerance	•	83.0
cm3/1000 strokes	: +-	5.0
Check tolerance cm3/1000s.	: +-	8.0

LOW IDLE

Rated speed rpm	:	300
Rack travel in mm Tolerance mm		8.70 0.10

Del. quantity		
cm3/1000 strokes	:	10.0
Tolerance		
cm3/1000 strokes	: +-	2.0
Check tolerance		
cm3/1000s.	: +-	4.0
Spreed		
Tolerance		
cm3/1000 strokes	:	2.0
Check tolerance		
cm3/1000s.	:	4.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 18.06.97 Test oil : ISO 4113

Combination No. : 0 400 846 336

Injection pump

Pump designation : PES6A90D410RS2293W EP type number : 0 410 896 049

Governor

Governer design. : RQV300...1425AB740L

Governer no. : 0 420 212 037

Cust. part No. :

Customer-spec. information
Customer : MB-NFZ
Motor : 0M352
Power KW : 115.0

TEST BENCH REQUIREMENTS

Inlet line : 2.1

Test oil inlet

temp. °C : 40
Tolerance °C : +- 2.0

Overflow valve : 1 419 922 198

Inlet press. bar : 1.5

Test nozzle holde

assembly : 0 681 343 009

Opening pressure

bar : 173.5 Tolerance bar : + 1.5

Test Lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 2.20 Tolerance mm : + 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm : 10.50
Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : + 0.50

Check

tolerance °NW : + 0.75

BASIC SETTING

Rated speed rpm : 1400

Rack travel in mm : 10.90 Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 72.0

Tolerance

cm3/1000 strokes : + 0.5

Check tolerance

cm3/1000s. : +- 2.5

Tolerance cm3/1000 strokes	: 3.0	control lever position degree : - 1
Check tolerance cm3/1000s.	: 4.5	Rated speed rpm : 1420
		Rack travel in mm : 16.50 Tolerance mm : +- 1.30
Rated speed rpm	: 300	- FULL LOAD DELIVERY AT FULL LOAD STOP
Rack travel in mm	n: 7.60	- TOLE LOAD DELIVERY AT TOLE LOAD STOF
Tolerance mm		Rated speed rpm : 1400
Del. quantity	 	Aneroid pressure
cm3/1000 strokes	: 12.0	- hPa : -
Tolerance cm3/1000 strokes	. + 30	- Del. quantity - cm3/1000 strokes : 72.0
Check tolerance		Tolerance
cm3/1000s.	: +- 5.0	cm3/1000 strokes : +- 0.5
Spreed	+	- Check tolerance
Tolerance	†	- cm3/1000s. : + 2.5
cm3/1000 strokes	: 2.0	- Spreed
Check tolerance cm3/1000S.	: 4.0	· Tolerance · cm3/1000 strokes : 3.0
UND 10000;	. 4.0	Check tolerance
	+	- cm3/1000s. : 4.5
(8) SETTING OF IN WITH GOVERNOR	- PMUR MCITDELY	•
		- CONTROL LEVER
GUIDE SLEEVE TRAN	/EL †	·
Rated speed rpm	. 550	- control lever - position degree : 114.0
guide sleeve	. 330	tolerance degree : +- 4.0
travel mm	: 2.85	-
Tolerance mm	: +- 0.15	- RATED SPEED
	†	rack travel mm : 9.90
Rated speed rpm	: 1460	Rated speed rpm : 1460
guide sleeve travel mm	: 8.50	Tolerance 1/min : +- 5
Tolerance mm	: +- 0.10	rack travel mm : 4.00
TOTOL GILLOC HAIL		- Rated speed rpm : 1575
Rated speed rpm	: 950	Tolerance 1/min : +- 15
guide sleeve	t	
travel mm	: 5.35	rack travel mm : 0.50
Tolerance mm	: +- 0.15	- Tolerance mm : +- 0.50 - Rated speed rpm : 1700
Rated speed rpm	: 775	· Nateu speeu (piii . (700
guide sleeve travel mm	: 4.35	•
Tolerance mm	: +- 0.25	
	+	- LOW IDLE
Rated speed rpm	: 300	•
guide sleeve	1/5	·
travel mm	: 1.45 : + 0.75	control lever
Tolerance mm	. +- 0.13	position degree : 68.0 tolerance degree : +- 4.0
GUIDE SLEEVE POST	ITION	Setting point w/out bumper spring
	‡	Rated speed rpm : 100

CRT mm min. : > 9.10

Testing:

Rated speed rpm 300 rack travel mm 7.60 Tolerance mm : +- 0.10

Rated speed rpm : 445

TORQUE CONTROL

Rated speed rpm : 1400 rack travel mm : 10.90 : +- 0.05 Tolerance mm

Start interlock

Rated speed rpm : > 100 Rated speed rpm : < 220

Check

speed 1/min : > 80

Check

speed 1/min : < 240

STARTING FUEL DELIVERY

100 Rated speed rpm : rack travel mm : 20.50 : +- 0.75 Tolerance mm

Del. quantity

cm3/1000 strokes : 76.0

Tolerance

cm3/1000 strokes : + 5.0

Check tolerance

cm3/1000s. : +- 8.0

LOW IDLE

300 Rated speed rpm :

Rack travel in mm : 7.60 Tolerance mm : +- 0.10

Del. quantity

cm3/1000 strokes : 12.0

Tolerance

cm3/1000 strokes : +- 3.0

cm3/1000s.: +- 5.0

Spreed

Tolerance

cm3/1000 strokes : 2.0

Check tolerance

cm3/1000s. 4.0

End of test specification sheet

Check tolerance

E02

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 18.06.97 : ISO 4113

Combination No. : 0 400 863 020

Injection pump

Pump designation : PES3A95D410/3RS2905

EP type number : 0 410 893 996

Governor

Governer design. : RSV325...1250A50858L

Governer no. : 0 420 232 621

Cust, part No. : 0423 1592 KY

Customer-spec. information

Customer : KHD-DMI

Motor

: F3L912/913_NEU

Power KW

: 40.5

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C

Tolerance °C

: +- 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

assembly

: 0 681 343 009

Opening pressure

bar

: 173.5

Tolerance bar : +- 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 3.00 Tolerance mm : + 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm : 10.50

Tolerance mm : +- 1.50

Firing order : 1- 3- 2

Phasina Tolerance : 0-120-240 : +- 0.50

Check

tolerance °NW

: +- 0.75

BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm : 11.35

Tolerance mm

: +- 0.05

Del. quantity

cm3/1000 strokes : 76.0

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance

cm3/1000s.

: +- 3.0

Tolerance : 3.5	+ Check tolerance + cm3/1000s. : 8.0
Check tolerance : 8.0	
	+ CONTROL LEVER
Rated speed rpm : 325	<pre>control lever position degree : 107.0 tolerance degree : +- 4.0</pre>
Rack travel in mm : 8.50 Tolerance mm : + 0.10	RATED SPEED
Del. quantity cm3/1000 strokes : 11.5 Tolerance	+ rack travel mm : 10.35 + Rated speed rpm : 1295 + Tolerance 1/min : +- 5
cm3/1000 strokes : +- 2.0 Check tolerance	rack travel mm : 4.00
cm3/1000s. : +- 4.5 Spreed Tolerance	Rated speed rpm : 1355 Tolerance 1/min : + 15
cm3/1000 strokes : 5.5 Check tolerance	rack travel mm : 0.85 Tolerance mm : + 0.55
cm3/1000s. : 9.0	Rated speed rpm : 1530
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	rack travel mm : 4.00 Rated speed rpm : 1380 Tolerance 1/min : +- 15
GUIDE SLEEVE POSITION	LOW IDLE
control lever position degree : FREE Rated speed rpm : 800	control lever position degree : 74.0
Rack travel in mm : 0.50 Tolerance mm : +- 0.20	tolerance degree : + 4.0 Setting point w/out bumper spring
governor spring pre-tension	+ Rated speed rpm : 325 + rack travel mm : 8.00
click setting x : 4.25	rack travel mm : 8.00 Tolerance mm : +- 0.10
FULL LOAD DELIVERY AT FULL LOAD STOP	Rated speed rpm : 100
Rated speed rpm : 1250	CRT mm min. : > 19.50
Aneroid pressure hPa : -	+ Testing:
Del. quantity cm3/1000 strokes : 76.0 Tolerance	Rated speed rpm : 325 rack travel mm : 8.50 Tolerance mm : +- 0.10
cm3/1000 strokes : +- 1.0 Check tolerance	rack travel mm : 2.00
cm3/1000s. : +- 3.0 Spreed	Rated speed rpm : 510 Tolerance 1/min : +- 30
Tolerance cm3/1000 strokes : 3.5	TORQUE CONTROL

Rated speed rpm : 1250 rack travel mm : 11.35 Tolerance mm : **←** 0.05

Rated speed rpm : 500

STARTING FUEL DELIVERY

Rated speed rpm 100 rack travel mm : 20.25 : **←** 0.75 Tolerance mm

Del. quantity

cm3/1000 strokes : 130.0

Tolerance

cm3/1000 strokes : + 7.5

Check tolerance

cm3/1000s. : +- 10.0

LOW IDLE

Rated speed rpm : 325

Rack travel in mm: 8.50 Tolerance mm : ← 0.10

Del. quantity

cm3/1000 strokes : 11.5

Tolerance

cm3/1000 strokes : + 2.0

Check tolerance

cm3/1000s. : +- 4.5

Spreed

Tolerance

cm3/1000 strokes : 5.5

Check tolerance

cm3/1000s. 9.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 18.06.97 : ISO 4113

Combination No. : 0 400 863 021

Injection pump

Pump designation : PES3A95D410/3RS2905

EP type number : 0 410 893 996

Governor

Governer design. : RSV325...900A1c359L

Governer no. : 0 420 232 622

Cust. part No. : 0423 1593 KY

Customer-spec. information

Customer : KHD-DMI

Motor

: F3L912/913_NEU

Power KW

: 40.5

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C

40

Tolerance °C : + 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

assembly

: 0 681 343 009

Opening pressure

bar

: 173.5

Tolerance bar : + 1.5

Test Lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0 x length mm : 600

RFMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm : 3.00 Tolerance mm : +- 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm : 10.50

Tolerance mm : +- 1.50

Firing order : 1- 3- 2

: 0-120-240 : +- 0.50 Phasing

Tolerance Check

tolerance °NW : +- 0.75

BASIC SETTING

Rated speed rpm : 850

Rack travel in mm : 11.80

Tolerance mm : +- 0.05

Del. quantity

cm3/1000 strokes : 80.0

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance

cm3/1000s.

: +- 3.0

Spreed

E06

Tolerance cm3/1000 strokes : 3.5	theck tolerance cm3/1000s. : 8.0
Check tolerance cm3/1000s. : 8.0	
	CONTROL LEVER
	control lever
Rated speed rpm : 325	+ position degree : 96.0 + tolerance degree : +- 4.0
Rack travel in mm: 7.90	+
Tolerance mm : + 0.10	+ RATED SPEED
Del. quantity	+ rack travel mm : 10.80
cm3/1000 strokes : 11.5	+ Rated speed rpm : 895
Tolerance	
cm3/1000 strokes : +- 2.0	+
Check tolerance	+ rack travel mm : 4.00
cm3/1000s. : +- 4.5	+ Rated speed rpm : 940
Spreed	+ Tolerance 1/min : +- 10
Tolerance	†
cm3/1000 strokes : 5.5	+ rack travel mm : 0.85
Check tolerance cm3/1000s. : 9.0	+ Tolerance mm : +- 0.55
cm3/1000s. : 9.0	+ Rated speed rpm : 1110
	Track travel mm : 4.00
(B) SETTING OF INJECTION PUMP	Rated speed rpm : 900
WITH GOVERNOR	+ Tolerance 1/min : +- 15
GUIDE SLEEVE POSITION	LOW IDLE
control lever	1
position degree : FREE	- control lever
Rated speed rpm : 800	position degree : 75.0
	tolerance degree : + 4.0
Rack travel in mm : 0.50	+
Tolerance mm : + 0.20	+ Setting point w/out bumper spring
governor spring	Rated speed rpm : 325
pre-tension	+ rack travel mm : 7.40
click setting x : 4.25	+ Tolerance mm : +- 0.10
	+ Rated speed rpm : 100
FULL LOAD DELIVERY AT FULL LOAD STOP	+
Dated around war 950	+ CRT mm min. : > 19.50
Rated speed rpm : 850	† Tanting.
Aneroid pressure	+ Testing:
hPa : -	Poted anged : 725
Del. quantity cm3/1000 strokes : 80.0	+ Rated speed rpm : 325 + rack travel mm : 7.90
Tolerance	+ Tolerance mm : 7.90
cm3/1000 strokes : +- 1.0	T roterance num : +- 0.10
Check tolerance	rack travel mm : 2.00
cm3/1000s. : +- 3.0	+ Rated speed rpm : 440
	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
	Tolerance 1/min · +- KD
Spreed	+ Tolerance 1/min : +- 30
	+ Tolerance 1/min : +- 30

850 Rated speed rpm rack travel mm 11.80 Tolerance mm : + 0.05

Rated speed rpm 500

STARTING FUEL DELIVERY

Rated speed rpm 100 20.25 rack travel min : **←** 0.75 Tolerance mm Del. quantity

cm3/1000 strokes : 130.0 Tolerance

cm3/1000 strokes : + 7.5

Check tolerance

cm3/1000s. : +- 10.0

LOW IDLE

Rated speed rpm : 325

Rack travel in mm : 7.90 Tolerance mm : +- 0.10 Del. quantity cm3/1000 strokes : 11.5

Tolerance

cm3/1000 strokes : +- 2.0

Check tolerance cm3/1000s. : +- 4.5

Spreed Tolerance

cm3/1000 strokes : 5.5

Check tolerance

cm3/1000s. 9.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition

: 18.06.97 : ISO 4113

Test oil

Combination No. : 0 400 863 024

Injection pump

Pump designation : PES3A95D410/3RS2905

EP type number : 0 410 893 996

Governor

Governer design. : RSV325...1250A5C917L

Governer no. : 0 420 232 639

Cust, part No. : 0423 2328 KY

Customer-spec. information Customer : KHD-DMI

Motor

: F3L912 : 44.0

Power KW

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40
Tolerance °C : +- 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

assembly

: 0 681 343 009

Opening pressure

bar : 173.5 Tolerance bar : +- 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 2ó.0 Tolerance bar : +- 1.0

Prestroke mm : 3.00 Tolerance mm: : +- 0.05

Check

: +- 0.10 tolerance mm

Rack travel in mm : 10.50 Tolerance mm : +- 1.50

Firing order : 1- 3- 2

: 0-120-240 : +- 0.50 Phasing Tolerance

Check

tolerance °NW : +- 0.75

BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm : 11.35

Tolerance mm : +- 0.05

Del. quantity

cm3/1000 strokes : 76.0

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance

cm3/1000s.

: +- 3.0

Tolerance	+ Check tolerance
cm3/1000 strokes : 3.5	cm3/1000s. : 8.0
Check tolerance cm3/1000s. : 8.0	İ
	CONTROL LEVER
	T + control lever
Rated speed rpm : 325	<pre>position degree : 107.0 tolerance degree : +- 4.0</pre>
Rack travel in mm: 8.50	+
Tolerance mm : +- 0.10 Del. quantity	+ RATED SPEED + rack travel mm : 10.35
cm3/1000 strokes : 11.5	+ rack travel mm : 10.35 + Rated speed rpm : 1295
Tolerance	+ Tolerance 1/min : +- 5
cm3/1000 strokes : + 2.0	+
Check tolerance	rack travel mm : 4.00
cm3/1000s. : +- 4.5 Spreed	+ Rated speed rpm : 1355 + Tolerance 1/min : +- 15
Tolerance	+ 10001 dilect 17 mill
cm3/1000 strokes : 5.5	rack travel mm : 0.85
Check tolerance	Tolerance mm : +- 0.55
cm3/1000s. : 9.9	Rated speed rpm : 1530
	rack travel mm : 4.00
(B) SETTING OF INJECTION PUMP	+ Rated speed rpm : 1380
WITH GOVERNOR	+ Tolerance 1/min : + 15
	1
	Ţ
GUIDE SLEEVE POSITION	
	+ LOW IDLE
control lever	Ī
position degree : FREE	control lever
Rated speed rpm : 800	+ position degree : 74.0
Rack travel in mm : 0.50	tolerance degree : +- 4.0
Tolerance mm : + 0.20	+ Setting point w/out bumper spring
	+
governor spring	Rated speed rpm : 325
pre-tension click setting x : 4.25	+ rack travel mm : 8.00 + Tolerance mm : +- 0.10
octor secting x . 4.65	+ Ocerance in
	+ Rated speed rpm : 100
FULL LOAD DELIVERY AT FULL LOAD STOP	CDT
Rated speed rpm : 1250	+ CRT mm min. : > 19.50
Aneroid pressure	Testing:
hPa : -	+
Del. quantity	+ Rated speed rpm : 325
cm3/1000 strokes : 76.0	+ rack travel mm : 8.50
Talangnaa	
Tolerance cm3/1000 strokes : +- 1.0	Tolerance mm : + 0.10
Tolerance cm3/1000 strokes : +- 1.0 Check tolerance	
cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 3.0	Tolerance mm : + 0.10 rack travel mm : 2.00 Rated speed rpm : 510
cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 3.0 Spreed	Tolerance mm : + 0.10 rack travel mm : 2.00
cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 3.0 Spreed Tolerance	Tolerance mm : + 0.10 rack travel mm : 2.00 Rated speed rpm : 510
cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 3.0 Spreed	Tolerance mm : +- 0.10 rack travel mm : 2.00 Rated speed rpm : 510

Rated speed rpm : 1250 rack travel mm : 11.35 Tolerance mm : +- 0.05

Rated speed rpm : 500

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 17.00
Tolerance mm : + 0.75
Del. quantity
cm3/1000 strokes : 90.0
Tolerance
cm3/1000 strokes : + 7.5
Check tolerance

: +- 10.0

LOW IDLE

cm3/1000s.

Rated speed rpm : 325 Rack travel in mm: 8.50 Tolerance mm : +- 0.10 Del. quantity cm3/1000 strokes : 11.5 Tolerance cm3/1000 strokes : - 2.0 Check tolerance cm3/1000s. : +- 4.5 Spreed Tolerance 5.5 cm3/1000 strokes : Check tolerance 9.9 cm3/1000s.

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 18.06.97 : ISO 4113

Combination No. : 0 400 864 099

Injection pump

Pump designation : PES4A95D410/3RS2789

EP type number : 0 410 894 995

Governor

Governer design. : RSV325...1250A50858L

Governer no. : 0 420 232 621

Cust. part No. : 0423 1595 KY

Customer-spec. information

Customer : KHD-DMI

Motor

: F4L912/913_NEU

Power KW

: 54.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C

40

Tolerance °C

: +- 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

assembly

: 0 681 343 009

Opening pressure

bar

: 173.5

Tolerance bar

Test Lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0

x length mm :

600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0

Tolerance bar : +- 1.0

Prestroke mm : +-3.00

: +- 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm : 10.50

Tolerance mm : + 1.50

Firing order : 1-3-4-2

Phasing : 0-90-180-270

Tolerance : +- 0.50

Check

tolerance °NW : +- 0.75

BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm : 11.35

Tolerance mm : +- 0.05

Del. quantity

cm3/1000 strokes : 76.0

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance

cm3/1000s.

: +- 3.0

Tolerance cm3/1000 strokes : 3.5	Check tolerance cm3/1000s. : 8.0
Check tolerance + cm3/1000S. : 8.0 +	
+	CONTROL LEVER
Rated speed rpm : 325	<pre>control lever position degree : 107.0 tolerance degree : +- 4.0</pre>
Rack travel in mm: 8.50 Tolerance mm: : +- 0.10 Del. quantity	RATED SPEED rack travel mm : 10.35
cm3/1000 strokes : 11.5	Rated speed rpm : 1295 Tolerance 1/min : +- 5
cm3/1000 strokes : +- 2.0 +- Check tolerance +-	rack travel mm : 4.00
cm3/1000s. : +- 4.5 + Spreed + Tolerance	Rated speed rpm : 1355 Tolerance 1/min : +- 15
cm3/1000 strokes : 5.5 Check tolerance	rack travel mm : 0.85 Tolerance mm : +- 0.55
cm3/1000s. : 9.0	Rated speed rpm : 1530
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	rack travel mm : 4.00 Rated speed rpm : 1380 Tolerance 1/min : +- 15
†	
GUIDE SLEEVE POSITION	LOW IDLE
control lever	
+	control lever position degree : 74.0
control lever + position degree : FREE +	control lever
control lever position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : +- 0.20 governor spring	control lever position degree : 74.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 325
control lever position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : +- 0.20	control lever position degree : 74.0 tolerance degree : +- 4.0 Setting point w/out bumper spring
control lever position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : +- 0.20 governor spring pre-tension	control lever position degree : 74.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 8.00
control lever position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 4.25 FULL LOAD DELIVERY AT FULL LOAD STOP	control lever position degree : 74.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 8.00 Tolerance mm : + 0.10
control lever position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : +- 0.20 governor spring pre-tension click setting x : 4.25	control lever position degree : 74.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 8.00 Tolerance mm : +- 0.10 Rated speed rpm : 100
control lever position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : +- 0.20 governor spring pre-tension click setting x : 4.25 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1250 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 76.0	control lever position degree : 74.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 8.00 Tolerance mm : + 0.10 Rated speed rpm : 100 CRT mm min. :> 19.50 Testing: Rated speed rpm : 325 rack travel mm : 325 rack travel mm : 325
control lever position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 4.25 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1250 Aneroid pressure hPa : - Del. quantity	control lever position degree : 74.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 8.00 Tolerance mm : +- 0.10 Rated speed rpm : 100 CRT mm min. :> 19.50 Testing: Rated speed rpm : 325
control lever position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : +- 0.20 governor spring pre-tension click setting x : 4.25 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1250 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 76.0 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 3.0	control lever position degree : 74.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 8.00 Tolerance mm : +- 0.10 Rated speed rpm : 100 CRT mm min. :> 19.50 Testing: Rated speed rpm : 325 rack travel mm : 8.50 Tolerance mm : +- 0.10 rack travel mm : 2.00 Rated speed rpm : 510
control lever position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 4.25 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1250 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 76.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance	control lever position degree : 74.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 8.00 Tolerance mm : +- 0.10 Rated speed rpm : 100 CRT mm min. :> 19.50 Testing: Rated speed rpm : 325 rack travel mm : 8.50 Tolerance mm : +- 0.10 rack travel mm : 2.00

Rated speed rpm : 1250 rack travel mm : 11.35 : +- 0.05 Tolerance mm

Rated speed rpm : 500

STARTING FUEL DELIVERY

100 Rated speed rpm rack travel mm : 20.25 : +- 0.75 Tolerance mm

Del. quantity

cm3/1000 strokes : 130.0

Tolerance

cm3/1000 strokes : + 7.5

Check tolerance

cm3/1000s. : +- 10.0

LOW IDLE

Rated speed rpm : 325

Rack travel in mm : 8.50 Tolerance mm : + 0.10Del. quantity

cm3/1000 strokes : 11.5

Tolerance

cm3/1000 strokes : +- 2.0

Check tolerance

: +- 4.5 cm3/1000s.

Spreed

Tolerance

cm3/1000 strokes : 5.5

Check tolerance

cm3/1000s. . 9.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 18.06.97 : ISO 4113 Test oil

Combination No. : 0 400 864 100

Injection pump

Pump designation : PES4A95D410/3RS2905

EP type number : 0 410 894 995

Governor

Governer design. : RSV325...900A10859L

Governer no. : 0 420 232 622

Cust. part No. : 0423 1596 KY

Customer-spec. information Customer : KHD-DMI

Motor : F4L912/913 NEU

: 54.0 Power KW

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

: 0 681 343 009 assembly

Opening pressure

: 173.5 Tolerance bar : +- 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm : 3.00 Tolerance mm : +- 0.05

Check

tolerance mm : + 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-3-4-2

: 0-90-180-270 : ← 0.50 Phasina

Tolerance

Check

tolerance °NW : +- 0.75

BASIC SETTING

Rated speed rpm : 850

Rack travel in mm : 11.80

Tolerance mm : +- 0.05

Del. quantity cm3/1000 strokes : 80.0

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance : +- 3.0 cm3/1000s.

Tolerance cm3/1000 strokes : 3.5	- Check tolerance - cm3/1000s. : 8.0
Check tolerance cm3/1000s. : 8.0	
	- CONTROL LEVER
Rated speed rpm : 325	- control lever
+	- position degree : 96.0 - tolerance degree : +- 4.0
Rack travel in mm: 7.90 + Tolerance mm: +- 0.10	- - RATED SPEED
Del. quantity	- rack travel mm : 10.80
cm3/1000 strokes : 11.5	- Rated speed rpm : 895 - Tolerance 1/min : +- 5
cm3/1000 strokes : +- 2.0 Check tolerance	-
cm3/1000s. : +- 4.5	- rack travel mm : 4.00 - Rated speed rpm : 940
Spreed + Tolerance +	- Tolerance 1/min : +- 10
cm3/1000 strokes : 5.5	rack travel mm : 0.85
Check tolerance + cm3/1000s. : 9.0	- Tolerance mm : +- 0.55 - Rated speed rpm : 1110
+	-
(B) SETTING OF INJECTION PUMP	- rack travel mm : 4.00 - Rated speed rpm : 960
WITH GOVERNOR	- Tolerance 1/min : +- 15
1	- -
GUIDE SLEEVE POSITION	
GUIDE SLEEVE POSITION	- LOW IDLE
control lever	• •
control lever position degree : FREE	- - control lever
control lever position degree : FREE Rated speed rpm : 300	• •
control lever position degree : FREE Rated speed rpm : 300 Rack travel in mm : 0.50	control lever position degree : 75.0 tolerance degree : +- 4.0
control lever position degree : FREE Rated speed rpm : 300 Rack travel in mm : 0.50 Tolerance mm : + 0.20	control lever position degree : 75.0 tolerance degree : +- 4.0 Setting point w/out bumper spring
control lever position degree : FREE Rated speed rpm : 300 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring	control lever position degree : 75.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 325
control lever position degree : FREE Rated speed rpm : 300 Rack travel in mm : 0.50 Tolerance mm : + 0.20	control lever position degree : 75.0 tolerance degree : +- 4.0 Setting point w/out bumper spring
control lever position degree : FREE Rated speed rpm : 300 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension	control lever position degree : 75.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 7.40 Tolerance mm : + 0.10
control lever position degree : FREE Rated speed rpm : 300 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension	control lever position degree : 75.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 7.40 Tolerance mm : + 0.10 Rated speed rpm : 100
control lever position degree : FREE Rated speed rpm : 300 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 4.25 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 850	control lever position degree : 75.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 7.40 Tolerance mm : + 0.10 Rated speed rpm : 100 CRT mm min. : > 19.50
control lever position degree : FREE Rated speed rpm : 300 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 4.25 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 850 Aneroid pressure	control lever position degree : 75.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 7.40 Tolerance mm : + 0.10 Rated speed rpm : 100
control lever position degree : FREE Rated speed rpm : 300 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 4.25 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 850 Aneroid pressure hPa : - Del. quantity	control lever position degree : 75.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 7.40 Tolerance mm : +- 0.10 Rated speed rpm : 100 CRT mm min. : > 19.50 Testing: Rated speed rpm : 325
control lever position degree : FREE Rated speed rpm : 300 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 4.25 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 850 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 80.0	control lever position degree : 75.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 7.40 Tolerance mm : +- 0.10 Rated speed rpm : 100 CRT mm min. : > 19.50 Testing: Rated speed rpm : 325 rack travel mm : 7.90
control lever position degree : FREE Rated speed rpm : 300 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 4.25 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 850 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 80.0 Tolerance cm3/1000 strokes : + 1.0	control lever position degree : 75.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 7.40 Tolerance mm : + 0.10 Rated speed rpm : 100 CRT mm min. : > 19.50 Testing: Rated speed rpm : 325 rack travel mm : 7.90 Tolerance mm : + 0.10
control lever position degree : FREE Rated speed rpm : 300 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 4.25 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 850 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 80.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance	control lever position degree : 75.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 7.40 Tolerance mm : + 0.10 Rated speed rpm : 100 CRT mm min. : > 19.50 Testing: Rated speed rpm : 325 rack travel mm : 7.90 Tolerance mm : + 0.10 rack travel mm : 2.00
control lever position degree : FREE Rated speed rpm : 300 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 4.25 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 850 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 80.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 3.0 Spreed	control lever position degree : 75.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 7.40 Tolerance mm : + 0.10 Rated speed rpm : 100 CRT mm min. : > 19.50 Testing: Rated speed rpm : 325 rack travel mm : 7.90 Tolerance mm : + 0.10
control lever position degree : FREE Rated speed rpm : 300 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 4.25 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 850 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 80.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : +- 3.0	control lever position degree : 75.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 7.40 Tolerance mm : + 0.10 Rated speed rpm : 100 CRT mm min. : > 19.50 Testing: Rated speed rpm : 325 rack travel mm : 7.90 Tolerance mm : + 0.10 rack travel mm : 2.00 Rated speed rpm : 326 Rated speed rpm : 440

Rated speed rpm 850 11.80 rack travel mm Tolerance mm : **←** 0.05

Rated speed rpm 500

STARTING FUEL DELIVERY

Rated speed rpm 100 rack travel mm : 20.25 : +- 0.75 Tolerance mm Del. quantity

cm3/1000 strokes : 130.0

Tolerance

cm3/1000 strokes : + 7.5

Check tolerance

cm3/1000s. : +- 10.0

LOW IDLE

Rated speed rpm : 325

Rack travel in mm : 7.90 Tolerance mm : + 0.10 Del. quantity

cm3/1000 strokes : 11.5

Tolerance

cm3/1000 strokes : +- 2.0

Check tolerance

cm3/1000s. : +- 4.5

Spreed

Tolerance

cm3/1000 strokes : 5.5

Check tolerance

cm3/1000s. 9.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 18.06.97 : ISO 4113

Combination No. : 0 400 864 107

injection pump

Pump designation : PES4A95D410/3RS2913

EP type number : 0 410 894 986

Governor

Governer design. : RSV325...900A1C359L

Governer no. : 0 420 232 622

Cust. part No. : 0423 2225 KY

Customer-spec. information Customer : KHD-DMI

: F4L912/Neu.compr Motor

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C

40

Tolerance °C

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

assembly : 0 681 343 009

Opening pressure

: 173.5

Tolerance bar : +- 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0

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x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm

Tolerance mm

: 3.00 : + 0.05

Check

: +- 0.10 tolerance mm

Rack travel in mm : 10.50

Tolerance mm : +- 1.50

Firing order : 1-3-2

: 0-90-270 : +- 0.50 Phasing Tolerance

Check

tolerance °NW : + 0.75

BASIC SETTING

Rated speed rpm : 850

Rack travel in mm : 11.80 Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 80.0

Tolerance

cm3/1000 strokes : + 1.0

Check tolerance

cm3/1000s.

: +- 3.0

Spreed

Tolerance

cm3/1000 strokes : 3.5

Charle dolors	
Check tolerance - cm3/1000s. : 8.0 -	CONTROL LEVER
cm3/1000S. : 8.0	CONTROL LEVER
	control lever
-	position degree : 96.0
Rated speed rpm : 325	tolerance degree : +- 4.0
	+
Rack travel in mm: 7.90	RATED SPEED
Tolerance mm : + 0.10	rack travel mm : 10.80
Del. quantity - cm3/1000 strokes : 11.5 -	- Rated speed rpm : 895 - Tolerance 1/min : +- 5
Tolerance	1 Toterance Training : 4- 3
cm3/1000 strokes : +- 2.0	rack travel mm : 4.00
Check tolerance	Rated speed rpm : 940
cm3/1000s. : +- 4.5	Tolerance 1/min : +- 10
Spreed -	+
Tolerance	rack travel mm : 0.85
cm3/1000 strokes : 5.5	Tolerance mm : +- 0.55
Check tolerance - cm3/1000s. : 9.0 -	Rated speed rpm : 1110
cm3/1000s. : 9.0	rack travel mm : 4.00
	Rated speed rpm : 960
(B) SETTING OF INJECTION PUMP	Tolerance 1/min : +- 15
WITH GOVERNOR -	Total arios Trimari
	1
-	-
GUIDE SLEEVE POSITION	LOW IDLE
control lever	control lever
position degree : FREE	position degree : 75.0
Rated speed rpm : 800	tolerance degree : + 4.0
***************************************	+
Rack travel in mm : 0.50	Setting point w/out bumper spring
Tolerance mm : +- 0.20	-
·	Rated speed rpm : 325
governor spring	rack travel mm : 7.40
pre-tension - 4.25	Tolerance mm : +- 0.10
click setting x : 4.25	Rated speed rpm : 100
	Added Speed 1 pm . 100
FULL LOAD DELIVERY AT FULL LOAD STOP	CRT mm min. : > 19.50
4	-
Rated speed rpm : 850 -	Testing:
Aneroid pressure	_
hPa : -	Rated speed rpm : 325
Del. quantity	rack travel mm : 7.90
cm3/1000 strokes : 80.0	Tolerance mm : +- 0.10
Tolerance cm3/1000 strokes : +- 1.0	t rack travel mm · 200
cm3/1000 strokes : +- 1.0 Check tolerance	rack travel mm : 2.00 Rated speed rpm : 440
cm3/1000s. ; +- 3.0	Tolerance 1/min : +- 30
Spreed -	1 1000 and 17 mm . 1 50
Tolerance -	
cm3/1000 strokes : 3.5	TORQUE CONTROL
Check tolerance	Rated speed rpm : 850
cm3/1000s. : 8.0	rack travel mm : 11.80
	Tolerance mm : +- 0.05

Rated speed rpm : 500

STARTING FUEL DELIVERY

Rated speed rpm : 100 20.25 rack travel mm : Tolerance mm : +- 0.75 Del. quantity

cm3/1000 strokes : 130.0

Tolerance

cm3/1000 strokes : + 7.5

Check tolerance

cm3/1000s. : +- 10.0

LOW IDLE

325 Rated speed rpm :

7.90 Rack travel in mm : Tolerance mm : +- 0.10 Del. quantity cm3/1000 strokes : 11.5

Tolerance

cm3/1000 strokes : +- 2.0

Check tolerance

cm3/1000s. 4.5

Spreed Tolerance

5.5 cm3/1000 strokes :

Check tolerance

9.0 cm3/1000s.

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 18.05.97 Test oil : ISO 4113

Combination No. : 0 400 864 109

Injection pump

Pump designation : PES4A95D410/3RS2789

EP type number : 0 410 894 995

Governor

Governer design. : RSV325...1250A5C917L

Governer no. : 0 420 232 639

Cust. part No. : 0423 2332 KY

Customer-spec. information Customer : KHD-DMI Motor : F4L912/913

Power KW : 59.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

assembly : 0 681 343 009

Opening pressure

bar : 173.5 Tolerance bar : + 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 3.00 Tolerance mm : + 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm : 10.50 Tolerance mm : +- 1.50

Firing order : 1-3- 4- 2

Phasing : 0-90-180-270

Tolerance : + 0.50

Check

tolerance °NW : +- 0.75

BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm : 11.35

Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 76.0

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance cm3/1000s. : +- 3.0

Spreed

Tolerance

cm3/1000 strokes : 3.5

t	
Check tolerance cm3/1000s. : 8.0	CONTROL LEVER
	control lever
Rated speed rpm : 325	position degree : 107.0 tolerance degree : +- 4.0
Rack travel in mm: 8.50	RATED SPEED
Tolerance mm : + 0.10	rack travel mm : 10.35
Del. quantity + cm3/1000 strokes : 11.5 +	Rated speed rpm : 1295 Tolerance 1/min : +- 5
Tolerance	
cm3/1000 strokes : + 2.0 +	rack travel mm : 4.00
Check tolerance cm3/1000s. : +- 4.5	Rated speed rpm : 1355 Tolerance 1/min : +- 15
Spreed	
Tolerance + cm3/1000 strokes : 5.5 +	rack travel mm : 0.85 Tolerance mm : +- 0.55
Check tolerance	Rated speed rpm : 1530
cm3/1000s. : 9.0	
†	rack travel mm : 4.00 Rated speed rpm : 1380
(B) SETTING OF INJECTION PUMP	Tolerance 1/min : +- 15
WITH GOVERNOR	
<u>†</u>	
GUIDE SLEEVE POSITION	LOW IDLE
İ	
control lever	control lever
position degree : FREE +	position degree : 74.0
Rated speed rpm : 800	tolerance degree : +- 4.0
Rack travel in mm: 0.50	Setting point w/out bumper spring
Tolerance mm : + 0.20	205
governor spring	Rated speed rpm : 325 rack travel mm : 8.00
pre-tension +	Tolerance mm : + 0.10
click setting x : 4.25	Dated arred may 100
	Rated speed rpm : 100
FULL LOAD DELIVERY AT FULL LOAD STOP	CRT mm min. : > 19.50
Rated speed rpm : 1250	Testing:
Aneroid pressure	-
hPa : - +	Rated speed rpm : 325
Del. quantity + cm3/1000 strokes : 76.0 +	rack travel mm : 8.50 Tolerance mm : + 0.10
Tolerance	Total alice intr
cm3/1000 strokes : + 1.0 +	rack travel mm : 2.00
Check tolerance + 3.0 +	Rated speed rpm : 510 Tolerance 1/min : +- 30
Spreed +	forer differ frilling . The SU
Tolerance	
cm3/1000 strokes : 3.5	TORQUE CONTROL
	TORQUE CONTROL Rated speed rpm : 1250 rack travel mm : 11.35

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 17.00
Tolerance mm : + 0.75
Del. quantity
cm3/1000 strokes : 90.0
Tolerance
cm3/1000 strokes : + 7.5
Check tolerance
cm3/1000s. : + 10.0

LOW IDLE

Rated speed rpm : 325 Rack travel in mm : 8.50 Tolerance mm : +- 0.10 Del. quantity cm3/1000 strokes : 11.5 Tolerance cm3/1000 strokes : +- 2.0Check tolerance cm3/1000S. ; +- 4.5 Spreed Tolerance 5.5 cm3/1000 strokes : Check tolerance cm3/1000S. 9.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 17.06.97 : ISO 4113

Combination No. : 0 400 865 029

Injection pump

Pump designation: PES5A95D410/3RS2906

EP type number : 0 410 895 971

Governor

Governer design. : RSV325...900A1C859L

Governer no. : 0 420 232 622

Cust. part No. : 0423 1599 KY

Customer-spec. information

Customer : KHD-DMI

Motor

: F5L912/913_NEU

Power KW

: 67.5

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C

40

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

assembly : 0 681 343 009

Opening pressure

: 173.5

Tolerance bar : +- 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0

Tolerance bar : +- 1.0

Prestroke mm : 3.00 Tolerance mm : +- 0.05

Check

tolerance mm : + 0.10

Rack travel in mm : 10.50

Tolerance mm : +- 1.50

Firing order : 1- 3- 5- 4- 2

: 0-72-144-216-288 : +- 0.50 Phasing

Tolerance

Check

tolerance °NW : +~ 0.75

BASIC SETTING

Rated speed rpm : 850

Rack travel in mm : 11.80

Tolerance mm : +- 0.05

Del. quantity

cm3/1000 strokes : 70.0

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance

cm3/1000s.

: +- 3.0

Tolerance +	
cm3/1000 strokes : 3.5	
+	
Check tolerance	CONTROL LEVER
cm3/1000s. : 8.0	
CIID/ 10003. , 0.0	
	control lever
+	position degree : 91.0
+	tolerance degree : +- 4.0
Rated speed rpm : 325	
1	RATED SPEED
Rack travel in mm: 8.60	rack travel mm : 10.50
Del. quantity	
cm3/1000 strokes : 11.5	Tolerance 1/min : +- 5
Folerance	
cm3/1000 strokes : +- 2.0 +	rack travel mm : 4.00
Check tolerance +	Rated speed rpm : 920
cm3/1000s. : + 4.5	Tolerance 1/min : +- 10
Spreed	
Tolerance	rack travel mm : 0.85
cm3/1000 strokes : 5.5	Tolerance mm : +- 0.55
Check tolerance	Rated speed rpm : 1090
cm3/1000s. : 9.0 $+$	
+	rack travel mm : 4.00
<u> </u>	Rated speed rpm : 940
(B) SETTING OF INJECTION PUMP	, , , , , , , , , , , , , , , , , , ,
WITH GOVERNOR	
WITH GOVERNOR	•
†	
+	
	LOW IDLE
GUIDE SLEEVE POSITION +	
4	•
\pm	. control lever
- control lover	control lever
control lever	position degree : 69.0
position degree : FREE	
· ·	position degree : 69.0
position degree : FREE	position degree : 69.0 tolerance degree : +- 4.0
position degree : FREE Rated speed rpm : 800	position degree : 69.0
position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50	position degree : 69.0 tolerance degree : +- 4.0 Setting point w/out bumper spring
position degree : FREE Rated speed rpm : 800	position degree : 69.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 325
position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : +- 0.20	position degree : 69.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 8.10
position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : +- 0.20 governor spring	position degree : 69.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 325
position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : +- 0.20 governor spring pre-tension	position degree : 69.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 8.10 Tolerance mm : +- 0.10
position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : +- 0.20 governor spring	position degree : 69.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 8.10
position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : +- 0.20 governor spring pre-tension	position degree : 69.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 8.10 Tolerance mm : +- 0.10
position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : +- 0.20 governor spring pre-tension	position degree : 69.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 8.10 Tolerance mm : +- 0.10 Rated speed rpm : 100
position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : +- 0.20 governor spring pre-tension click setting x : 2.75	position degree : 69.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 8.10 Tolerance mm : +- 0.10
position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : +- 0.20 governor spring pre-tension	position degree : 69.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 8.10 Tolerance mm : +- 0.10 Rated speed rpm : 100 CRT mm min. : > 19.50
position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : +- 0.20 governor spring pre-tension click setting x : 2.75 FULL LOAD DELIVERY AT FULL LOAD STOP	position degree : 69.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 8.10 Tolerance mm : +- 0.10 Rated speed rpm : 100
position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : +- 0.20 governor spring pre-tension click setting x : 2.75 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 850	position degree : 69.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 8.10 Tolerance mm : +- 0.10 Rated speed rpm : 100 CRT mm min. : > 19.50 Testing:
position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : +- 0.20 governor spring pre-tension click setting x : 2.75 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 850 Aneroid pressure	position degree : 69.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 8.10 Tolerance mm : +- 0.10 Rated speed rpm : 100 CRT mm min. : > 19.50 Testing: Rated speed rpm : 325
position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : +- 0.20 governor spring pre-tension click setting x : 2.75 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 850	position degree : 69.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 8.10 Tolerance mm : +- 0.10 Rated speed rpm : 100 CRT mm min. : > 19.50 Testing:
position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : +- 0.20 governor spring pre-tension click setting x : 2.75 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 850 Aneroid pressure hPa : -	position degree : 69.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 8.10 Tolerance mm : +- 0.10 Rated speed rpm : 100 CRT mm min. : > 19.50 Testing: Rated speed rpm : 325
position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : +- 0.20 governor spring pre-tension click setting x : 2.75 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 850 Aneroid pressure hPa : - Del. quantity	position degree : 69.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 8.10 Tolerance mm : +- 0.10 Rated speed rpm : 100 CRT mm min. : > 19.50 Testing: Rated speed rpm : 325 rack travel mm : 8.60
position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : +- 0.20 governor spring pre-tension click setting x : 2.75 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 850 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 70.0	position degree : 69.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 8.10 Tolerance mm : +- 0.10 Rated speed rpm : 100 CRT mm min. : > 19.50 Testing: Rated speed rpm : 325 rack travel mm : 8.60 rack travel mm : 2.00
position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : +- 0.20 governor spring pre-tension click setting x : 2.75 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 850 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 70.0 Tolerance	position degree : 69.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 8.10 Tolerance mm : +- 0.10 Rated speed rpm : 100 CRT mm min. : > 19.50 Testing: Rated speed rpm : 325 rack travel mm : 8.60 rack travel mm : 2.00 Rated speed rpm : 425
position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : +- 0.20 governor spring pre-tension click setting x : 2.75 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 850 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 70.0 Tolerance cm3/1000 strokes : +- 1.0	position degree : 69.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 8.10 Tolerance mm : +- 0.10 Rated speed rpm : 100 CRT mm min. : > 19.50 Testing: Rated speed rpm : 325 rack travel mm : 8.60 rack travel mm : 2.00
position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : +- 0.20 governor spring pre-tension click setting x : 2.75 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 850 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 70.0 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance	position degree : 69.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 8.10 Tolerance mm : +- 0.10 Rated speed rpm : 100 CRT mm min. : > 19.50 Testing: Rated speed rpm : 325 rack travel mm : 8.60 rack travel mm : 2.00 Rated speed rpm : 425
position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : +- 0.20 governor spring pre-tension click setting x : 2.75 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 850 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 70.0 Tolerance cm3/1000 strokes : +- 1.0	position degree : 69.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 8.10 Tolerance mm : +- 0.10 Rated speed rpm : 100 CRT mm min. : > 19.50 Testing: Rated speed rpm : 325 rack travel mm : 8.60 rack travel mm : 2.00 Rated speed rpm : 425 Tolerance 1/min : +- 30
position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : +- 0.20 governor spring pre-tension click setting x : 2.75 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 850 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 70.0 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 3.0	position degree : 69.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 8.10 Tolerance mm : +- 0.10 Rated speed rpm : 100 CRT mm min. : > 19.50 Testing: Rated speed rpm : 325 rack travel mm : 8.60 rack travel mm : 2.00 Rated speed rpm : 425 Tolerance 1/min : +- 30
position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : +- 0.20 governor spring pre-tension click setting x : 2.75 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 850 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 70.0 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 3.0 Spreed	position degree : 69.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 8.10 Tolerance mm : +- 0.10 Rated speed rpm : 100 CRT mm min. : > 19.50 Testing: Rated speed rpm : 325 rack travel mm : 8.60 rack travel mm : 2.00 Rated speed rpm : 425 Tolerance 1/min : +- 30
position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : +- 0.20 governor spring pre-tension click setting x : 2.75 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 850 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 70.0 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 3.0 Spreed Tolerance	position degree : 69.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 8.10 Tolerance mm : +- 0.10 Rated speed rpm : 100 CRT mm min. : > 19.50 Testing: Rated speed rpm : 325 rack travel mm : 8.60 rack travel mm : 2.00 Rated speed rpm : 425 Tolerance 1/min : +- 30 TORQUE CONTROL Rated speed rpm : 850
position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : +- 0.20 governor spring pre-tension click setting x : 2.75 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 850 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 70.0 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 3.0 Spreed Tolerance cm3/1000 strokes : 3.5	position degree : 69.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 8.10 Tolerance mm : +- 0.10 Rated speed rpm : 100 CRT mm min. : > 19.50 Testing: Rated speed rpm : 325 rack travel mm : 8.60 rack travel mm : 2.00 Rated speed rpm : 425 Tolerance 1/min : +- 30 TORQUE CONTROL Rated speed rpm : 850 rack travel mm : 11.80
position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : +- 0.20 governor spring pre-tension click setting x : 2.75 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 850 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 70.0 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 3.0 Spreed Tolerance	position degree : 69.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 8.10 Tolerance mm : +- 0.10 Rated speed rpm : 100 CRT mm min. : > 19.50 Testing: Rated speed rpm : 325 rack travel mm : 8.60 rack travel mm : 2.00 Rated speed rpm : 425 Tolerance 1/min : +- 30 TORQUE CONTROL Rated speed rpm : 850

Rated speed rpm : 500

STARTING FUEL DELIVERY

Rated speed rpm 100 rack travel mm : 20.25 : + 0.75 Tolerance mm Del. quantity

cm3/1000 strokes : 130.0

Tolerance

cm3/1000 strokes : +- 7.5

Check tolerance

cm3/1000s. : +- 10.0

LOW IDLE

Rated speed rpm : 325

Rack travel in mm: 8.60

Del. quantity cm3/1000 strokes : 11.5

Tolerance

cm3/1000 strokes : +- 2.0

Check tolerance

cm3/1000s. : +- 4.5

Spreed Tolerance

5.5 cm3/1000 strokes :

Check tolerance

9.0 cm3/1000s.

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition

: 18.06.97 Test oil : ISO 4113

Combination No. : 0 400 866 223

Injection pump

Pump designation : PES6A95D410/3RS2907

EP type number : 0 410 896 884

Governor

Governer design. : RSV325...900A1C859L

Governer no. : 0 420 232 622

Cust. part No. : 0423 1602 KY

Customer-spec. information

Customer : KHD-DMI

Motor

: F6L912/913_NEU

Power KW

: 81.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C

40

Tolerance °C

: +- 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde assembly : 0 681 343 009

Opening pressure

bar

: 173.5

Tolerance bar : +- 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

: 3.00 : +- 0.05 Prestroke mm

Tolerance mm

Check

tolerance mm : +- 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

Phasing : 0-60-120-180-240

: -300

: +- 0.50 Tolerance

Check

tolerance "NW : +- 0.75

BASIC SETTING

Rated speed rpm : 850

Rack travel in mm : 11.80

Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 80.0

Tolerance

cm3/1000 strokes : + 1.0

Check tolerance

cm3/1000s.

: +- 3.0

E27

Spreed	Check tolerance cm3/1000s. : 8.0
Tolerance cm3/1000 strokes : 3.5	
Check tolerance cm3/1000s. : 8.0	CONTROL LEVER control lever
	<pre>position degree : 96.0 tolerance degree : +- 4.0</pre>
Rated speed rpm : 325	RATED SPEED
Rack travel in mm: 7.90 Del. quantity	rack travel mm : 10.80 Rated speed rpm : 895
cm3/1000 strokes : 11.5	Tolerance 1/min : +- 5
cm3/1000 strokes : + 2.0 +	rack travel mm : 4.00
Check tolerance cm3/1000s. : + 4.5	Rated speed rpm : 940 Tolerance 1/min : +- 10
Spreed + Tolerance + cm3/1000 strokes : 5.5	rack travel mm : 0.85
Check tolerance +	Tolerance mm : →- 0.55 Rated speed rpm : 1110
cm3/1000s. : 9.0	rack travel mm : 4.00
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	Rated speed rpm : 960 Tolerance 1/min : +- 15
CULTATE OF COLUMN	LOUITOUE
GUIDE SLEEVE POSITION +	LOW IDLE
control lever position degree : FREE	control lever
DOSTRION GRONDE : ENER	
Rated speed rpm : 800	position degree : 75.0 tolerance degree : +- 4.0
Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20	tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 325
Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension	tolerance degree : +- 4.0 Setting point w/out bumper spring
Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring	tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 7.40
Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension	tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 7.40 Tolerance mm : +- 0.10
Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 4.25 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 850	tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 7.40 Tolerance mm : + 0.10 Rated speed rpm : 100
Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 4.25 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 850 Aneroid pressure hPa : -	tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 7.40 Tolerance mm : +- 0.10 Rated speed rpm : 100 CRT mm min. : > 19.50 Testing: Rated speed rpm : 325
Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 4.25 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 850 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 80.0	tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 7.40 Tolerance mm : +- 0.10 Rated speed rpm : 100 CRT mm min. :> 19.50 Testing: Rated speed rpm : 325 rack travel mm : 7.90
Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 4.25 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 850 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 80.0 Tolerance cm3/1000 strokes : + 1.0	tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 7.40 Tolerance mm : +- 0.10 Rated speed rpm : 100 CRT mm min. :> 19.50 Testing: Rated speed rpm : 325 rack travel mm : 7.90 rack travel mm : 2.00 Rated speed rpm : 440
Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 4.25 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 850 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 80.0 Tolerance	tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 7.40 Tolerance mm : +- 0.10 Rated speed rpm : 100 CRT mm min. :> 19.50 Testing: Rated speed rpm : 325 rack travel mm : 7.90 rack travel mm : 2.00
Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 4.25 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 850 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 80.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance	tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 7.40 Tolerance mm : +- 0.10 Rated speed rpm : 100 CRT mm min. :> 19.50 Testing: Rated speed rpm : 325 rack travel mm : 7.90 rack travel mm : 2.00 Rated speed rpm : 440

rack travel mm : 11.80 Tolerance mm : +- 0.05

Rated speed rpm : 500

STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 20.25 Tolerance mm : +- 0.75

Del. quantity

cm3/1000 strokes : 130.0

Tolerance

cm3/1000 strokes : \leftarrow 7.5

Check tolerance

cm3/1000s. : -- 10.0

LOW IDLE

Rated speed rpm : 325

Rack travel in mm: 7.90

Del. quantity

cm3/1000 strokes : 11.5

Tolerance

cm3/1000 strokes : +- 2.0

Check tolerance

cm3/1000s. : +- 4.5

besnag

Tolerance

cm3/1000 strokes : 5.5

Check tolerance

cm3/1000s. : 9.0

BOSCH INJ. PUMP TEST SPECIFICATIONS Note remarks Refer to Service Info for test and adjustment instructions. See microcard(s) W400/... Edition : 11.06.97 Test oil : ISO 4113 Combination No. : 0 400 873 042 Injection pump Pump designation : PES3A95D32ORS2810 EP type number : 0 410 893 997 Governor Governer design. : RSV375...1175A2C897R Governer no. : 0 420 233 350 Cust. part No. : 8366 54717 Customer-spec. information Customer : SISU : 320 DS Motor Power KW : 55.0 TEST BENCH REQUIREMENTS Inlet line : 2.3 Test oil inlet temp. °C 40 Tolerance °C : +- 2.0 Overflow valve : 1 419 992 198 Inlet press. bar : 1.5

: 0 681 343 009

: 173.5

: +- 1.5

Test Lines : 1 680 750 014

Outside diameter : 6.0

REMARKS			
(A) INJECTION PUMP SETTING VALUES Set equal delivery quant. per values			
BEGINNING OF DELIV	/ERY		
Test pressure bar Tolerance bar	: 26.0 : +- 1.0		
Prestroke mm Tolerance mm Check	: 2.55 : +- 0.05		
tolerance mm	: +- 0.10		
Rack travel in mm Tolerance mm	: 10.50 : +- 1.50		
Firing order	: 1- 2- 3		
Phasing Tolerance Check tolerance °NW	: 0-120-240 : +- 0.50 : +- 0.75		
Beginning of deliv	very differende		
and maximum rack travel Tolerance mm Difference ° CS	: 10.50 : +- 1.50 : 5.00		
BASIC SETTING			
Rated speed rpm	: 1175		
Rack travel in mm Tolerance mm	: 10.75 : +- 0.05		
Del. quantity cm3/1000 strokes	: 86.5		
Tolerance cm3/1000 strokes	: +- 1.0		

x inside diameter :

x length mm

2.0

: 600

Test nozzle holde

Opening pressure

Tolerance bar

assembly

bar

Check tolerance	+ Check tolerance
cm3/1000s. : +- 3.0	+ cm3/1000s. : +- 3.0
	+ Spreed
Spreed	+ Tolerance
Talanana	+ cm3/1000 strokes : 3.5
Tolerance cm3/1000 strokes : 3.5	+ Check tolerance + cm3/1000S. : 8.0
ciis/ juou strokes : 5.5	+ cm5/10005. : 6.0
Check tolerance	I
cm3/1000s. : 8.0	
	+ CONTROL LEVER
	+
	+ control lever
Rated speed rpm : 375	+ position degree : 101.0
Deal Average 2 mm - / /D	tolerance degree : +- 4.0
Rack travel in mm : 4.40 Tolerance mm : +- 0.10	T DATEN SPEEN
Tolerance mm : +- 0.10 Del. quantity	+ RATED SPEED + rack travel mm : 9.70
cm3/1000 strokes : 11.5	Rated speed rpm : 1220
Tolerance	+ Tolerance 1/min : +- 5
cm3/1000 strokes : + 2.0	+
Check tolerance	rack travei mm : 4.00
cm3/1000s. : +- 4.5	Rated speed rpm : 1285
Spreed	+ Tolerance 1/min : +- 15
Tolerance	†
cm3/1000 strokes : 5.5	† rack travel mm : 0.85
Check tolerance	Tolerance mm : +- 0.55
cm3/1000s. : 9.0	Rated speed rpm : 1440
	rack travel mm : 4.00
(B) SETTING OF INJECTION PUMP	Rated speed rpm : 1295
WITH GOVERNOR	+ Tolerance 1/min : ÷ 15
	+
	+
	†
GUIDE SLEEVE POSITION	101.7015
	+ LOW IDLE
control lever	Ī
position degree : FREE	control lever
Rated speed rpm : 800	position degree : 75.0
	tolerance degree : + 4.0
Rack travel in mm : 0.50	+
Tolerance mm : +- 0.20	Setting point w/out bumper spring
•	*
governor spring	Rated speed rpm : 375
pre-tension	rack travel mm : 3.80
pre-tension	rack travel mm : 3.80 Tolerance mm : +- 0.10
pre-tension click setting x : 4.50	rack travel mm : 3.80
pre-tension	rack travel mm : 3.80 Tolerance mm : +- 0.10
pre-tension click setting x : 4.50 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1175	rack travel mm : 3.80 Tolerance mm : + 0.10 Rated speed rpm : 100 CRT mm min. : > 19.50
pre-tension click setting x : 4.50 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1175 Aneroid pressure	rack travel mm : 3.80 Tolerance mm : +- 0.10 Rated speed rpm : 100
pre-tension click setting x : 4.50 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1175 Aneroid pressure hPa : -	rack travel mm : 3.80 Tolerance mm : + 0.10 Rated speed rpm : 100 CRT mm min. : > 19.50 Testing:
pre-tension click setting x : 4.50 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1175 Aneroid pressure hPa : - Del. quantity	rack travel mm : 3.80 Tolerance mm : + 0.10 Rated speed rpm : 100 CRT mm min. : > 19.50 Testing: Rated speed rpm : 375
pre-tension click setting x : 4.50 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1175 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 86.5	rack travel mm : 3.80 Tolerance mm : + 0.10 Rated speed rpm : 100 CRT mm min. : > 19.50 Testing: Rated speed rpm : 375 rack travel mm : 4.40
pre-tension click setting x : 4.50 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1175 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 86.5 Tolerance	rack travel mm : 3.80 Tolerance mm : + 0.10 Rated speed rpm : 100 CRT mm min. : > 19.50 Testing: Rated speed rpm : 375
pre-tension click setting x : 4.50 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1175 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 86.5	rack travel mm : 3.80 Tolerance mm : + 0.10 Rated speed rpm : 100 CRT mm min. : > 19.50 Testing: Rated speed rpm : 375 rack travel mm : 4.40

Rated speed rpm Tolerance 1/min	: 450 : +- 30	
TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm	: 1175 : 10.75 : +- 0.05	
Rated speed rpm rack travel mm Tolerance mm	: 500 : 11.25 : +- 0.05	
Rated speed rpm rack travel mm Tolerance mm	: 990 : 10.90 : + 0.10	
FUEL DELIVERY CHA	RACTERISTICS	
Aneroid pressure hPa Rated speed rpm	: -	
Del. quantity		
cm3/1000 strokes Tolerance		
cm3/1000 strokes Check tolerance cm3/1000s.	: +- 2.0 : +- 4.0	
STARTING FUEL DEL	IVERY	
Rated speed rpm	: 100	
rack travel mm Tolerance mm	: 20.25 : + 0.75	
Del. quantity cm3/1000 strokes	: 205.0	
Tolerance cm3/1000 strokes	: +- 8.0	
Check tolerance cm3/1000s.	: + 11.0	
LOW IDLE		
Rated speed rpm	: 375	
Rack travel in mm		
Tolerance mm Del. quantity	: ← 0.10	
cm3/1000 strokes Tolerance	: 11.5	
cm3/1000 strokes	: +- 2.0	

Check tolerance cm3/1000S. Spreed	: +-	4.5
Tolerance cm3/1000 strokes Check tolerance	:	5.5
cm3/1000s.	•	9.0

BOSCH INJ. PUMP TEST SPECIFICATIONS Note remarks Refer to Service Info for test and adjustment instructions. See microcard(s) W400/... : 22.08.96 Edition Test oil : ISO 4113 Combination No. : 0 400 874 218 Injection pump Pump designation : PES4A90D410RS2294 EP type number : 0 410 894 011 Governor Governer design. : RSV350...1400A0C2006 Governer no. : 0 420 232 395 Cust. part No. : Customer-spec. information Customer : MB-NFZ : OM 314 Motor Power KW : 62.5 TEST BENCH REQUIREMENTS Inlet line : 1.2 Test oil inlet temp. °C Tolerance °C Overflow valve : 1 419 992 198 Inlet press. bar : 1.5 Test nozzle holde : 0 681 343 009 assembly Opening pressure 173.5 bar Tolerance bar : +- 1.5 Test Lines : 1 680 750 014

Outside diameter : 6.0

F05

x inside diameter x length mm	: 2.0 : 600
REMARKS	
(A) INJECTION PUMP Set equal delivery per values	y quant. -
BEGINNING OF DELIV	VERY
Test pressure bar Tolerance bar	: 26.0 : + 1.0
Firing order	: 1-3-4-2
Phasing Tolerance Check	: 0-90-180-270 : +- 0.50
tolerance °NW	: +- 0.75
BASIC SETTING	
Rated speed rpm	: 1380
Rack travel in mm Tolerance mm	: 10.45 : +- 0.05
Del. quantity cm3/1000 strokes	: 64.0
Tolerance cm3/1000 strokes	: + 0.5
Check tolerance cm3/1000s.	: +- 2.5
Spreed	
Tolerance cm3/1000 strokes	: 3.0
Check tolerance cm3/1000S.	: 4.5
Rated speed rpm	: 350

Rack travel in mm		_
Tolerance mm	: +- 0.10	-
Del. quantity cm3/1000 strokes	: 27.0	-
Tolerance	. 27.0	
cm3/1000 strokes	: +- 3.0	-
Check tolerance		
cm3/1000s.	: ← 5.0	•
Spreed Tolerance		•
cm3/1000 strokes	: 2.0	
Check tolerance		
cm3/1000s.	: 4.0	•
(B) SETTING OF IN	JECTION PUMP	•
WITH GOVERNOR		
		•
GUIDE SLEEVE POSI	TION	
		•
control lever		
rosition degree	: - 3	
Rated speed rpm	: 800	
Rack travel in mm	: 0.50	•
Tolerance mm	: + 0.20	
TOCOT CALLED	5.25	
FULL LOAD DELIVER	Y AT FULL LOAD STOP	٠
Rated speed rpm Aneroid pressure	: 1380	•
hPa	: -	
Del. quantity	·	
cm3/1000 strokes	: 64.0	
Tolerance cm3/1000 strokes	: +- 0.5	•
Check tolerance	. +- 0.5	
cm3/1000s.	: +- 2.5	
Spreed		
Tolerance	: 3.0	
cm3/1000 strokes Check tolerance	: 3.0	
cm3/1000s.	: 4.5	
		•
CONTROL LEVER		
control lever		
position degree	: 115.0	-
tolerance degree	: +- 4.0	-
RATED SPEED		
rack travel mm	: 9.40	-
Rated speed rpm	: 1425	

Tolerance 1/min	: +- 5
rack travel mm Rated speed rpm Tolerance 1/min	: 4.40 : 1498 : +- 8
rack travel mm Tolerance mm Rated speed rpm	: 1.00 : +- 0.70 : 1600
LOW IDLE	
control lever position degree tolerance degree	
Setting point w/or	ut bumper spring
Rated speed rpm	: 100
CRT mm min.	: > 19.00
Testing:	
Rated speed rpm rack travel mm Tolerance mm	: 350 : 9.30 : + 0.10
rack travel mm Rated speed rpm Tolerance 1/min	: 2.00 : 560 : + 30
Rated speed rpm	: 650
CRT mm max.	: < 1.00
TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm	: 1380 : 10.45 : +- 0.05
Rated speed rpm rack travel mm Tolerance mm	: 600 : 10.55 : +- 0.10

STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 15.00 Tolerance mm : + 0.30

Rated speed rpm	:		350	
Rack travel in mm Tolerance mm Del. quantity			9.30 - 0.10	
cm3/1000 strokes	:		27.0	
Tolerance cm3/1000 strokes	:	+-	- 3.0	
Check tolerance cm3/1000s. Spreed	:	+-	- 5.0	
Tolerance cm3/1000 strokes Check tolerance	:		2.0	
cm3/1000s.	:		4.0	

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 14.09.96 Test oil : ISO 4113

Combination No. : 0 400 876 218

Injection pump

Pump designation : PES6A90D410RS2293 EP type number : 0 410 896 031

Governor

Governer design. : RSV350...1400A0C1080

Governer no. : 0 420 232 408

Cust. part No. :

Customer-spec. information Customer : MB-NFZ Motor : OM 352 : 92.0 Power KW

TEST BENCH REQUIREMENTS

Inlet line : 1.2

Test oil inlet

temp. °C Tolerance °C : +- 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

: 0 681 343 009 assembly

Opening pressure

173.5 Tolerance bar : + 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 2.20 Tolerance mm : +- 0.05 Check tolerance mm : +- 0.10

10.50 Rack travel in mm : Tolerance mm : +- 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : +- 0.50

Check

tolerance °NW : +- 0.75

BASIC SETTING

Rated speed rpm : 1400

Rack travel in mm: 9.75 Tolerance mm : \leftarrow 0.05

Del. quantity

cm3/1000 strokes : 63.5

Tolerance

cm3/1000 strokes : \leftarrow 0.5

Check tolerance

cm3/1000s. : +- 2.5

Spreed

Tolerance cm3/1000 strokes : 3.0	CONTROL LEVER
Check tolerance cm3/1000s. : 4.5	control lever position degree : 118.0 tolerance degree : +- 4.0
Rated speed rpm : 350 Del. quantity	RATED SPEED
cm3/1000 strokes : 11.0 Tolerance	rack travel mm : 0.85 Tolerance mm : +- 0.55
cm3/1000 strokes : + 1.0 Check tolerance	Rated speed rpm : 1570
cm3/1000s. : + 3.0 Spreed Tolerance	rack travel mm : 4.00 Rated speed rpm : 1525 Tolerance 1/min : +- 15
cm3/1000 strokes : 2.5 Check tolerance	rack travel mm : 8.70
cm3/1000s. : 4.5	Rated speed rpm : 1450 Tolerance 1/min : +- 5
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	
	LOW IDLE
GUIDE SLEEVE POSITION	Setting point w/out bumper spring
	Rated speed rpm : 350
control lever position degree : - 3 Rated speed rpm : 800	rack travel mm : 6.80 Tolerance mm : +- 0.10
Rack travel in mm : 0.50	Rated speed rpm : 100
Tolerance mm : +- 0.20	+ CRT mm min. : > 19.50
governor spring pre-tension	† Testing:
click setting x : 3.50	rack travel mm : 2.00 Rated speed rpm : 2775 Tolerance 1/min : +- 2325
FULL LOAD DELIVERY AT FULL LOAD S	
Rated speed rpm : 1400 Aneroid pressure hPa : - Del. quantity	TORQUE CONTROL Rated speed rpm : 1400 rack travel mm : 9.75 Tolerance mm : +- 0.05
cm3/1000 strokes : 63.5	+
Tolerance cm3/1000 strokes : + 0.5	Rated speed rpm : 600 rack travel mm : 10.00
	+ Tolerance mm : +- 0.10
Check tolerance cm3/1000s. : +- 2.5 Spreed	
Check tolerance cm3/1000s. : +- 2.5	FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa Rated speed rpm	: - : 600	
Del. quantity cm3/1000 strokes Tolerance	: 52.0	
cm3/1000 strokes Check tolerance	: + 1.0	
cm3/1000s.	: +- 3.0	
Aneroid pressure hPa	: -	
Rated speed rpm Del. quantity	: 850	
cm3/1000 strokes Tolerance	: 57.0	
cm3/1000 strokes Check_tolerance	: +- 1.0	
cm3/100Os.	: +- 3.5	
STARTING FUEL DEL	IVERY	
Rated speed rpm rack travel mm	: 100 : 15.20	
Tolerance mm Del. quantity	: +- 0.20	
cm3/1000 strokes Tolerance	: 83.0	
cm3/1000 strokes Check tolerance	: +- 5.0	
cm3/1000s.	: + 8.0	
LOW IDLE		
Rated speed rpm	: 350	
Del. quantity cm3/1000 strokes	: 11.0	
Tolerance cm3/1000 strokes	: +- 1.0	
Check tolerance cm3/1000s.	: + 3.0	
Spreed		
Spreed Tolerance cm3/1000 strokes Check tolerance	: 2.5	

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 07.06.97 : ISO 4113

Combination No. : F 002 A07 007

Injection pump

Pump designation : PES6A95D320/3RS2881

EP type number : 9 410 637 215

Governor

Governer design. : RSV475...1100A0C881R

Governer no. : F 002 A20 207

Cust. part No. : 3928597

Customer-spec. information Customer : CUMMINS Motor : 6BTA Power KW : 122.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C Tolerance °C : **←** 2.0

: 2 417 413 093 Overflow valve

Inlet press. bar : 2.0 : 2.0 : + 0.1 Tolerance bar

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

208.5 bar Tolerance bar : + 1.5

Test Lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0 x length mm :

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar: 17.0 Tolerance bar : + 1.0

Prestroke mm : 2.85
Tolerance nim : + 0.05

Check

tolerance mm : \leftarrow 0.10

Rack travel in mm : 10.50 Tolerance mm : \leftarrow 1.50

Firing order : 1-5-3-6-2-

: 4

: 0-60-120-180-240 Phasing

: -300

: +- 0.50 Tolerance

Check

tolerance °NW : +- 0.75

Start of delivery blocking

*NW after s.o.d. : 8.50 Tolerance : +- 0.10

Check

tolerance °NW : +- 0.29

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm: 13.20

F11

Tolerance mm	: ← 0.05
Del. quantity cm3/1000 strokes	: 116.9
Tolerance cm3/1000 strokes	: +- 1.0
Check tolerance cm3/1000s.	: + 3.0
Spreed	The first appropriate that four high and this structure, we stee their the first again, says were the
Tolerance cm3/1000 strokes	: 4.0
Check tolerance cm3/1000s.	: 6.5
Rated speed rpm	: 475
Rack travel in mm Tolerance mm	: 5.2C : ← 0.10
Del. quantity cm3/1000 strokes	: 21.5
Tolerance cm3/1000 strokes	: + 2.0
Check tolerance cm3/1000s. Spreed	: +- 4.5
Tolerance cm3/1000 strokes	: 6.0
Check tolerance cm3/1000s.	: 8.0
(B) SETTING OF INJ WITH GOVERNOR	ECTION PUMP
GUIDE SLEEVE POSIT	TION
control lever position degree Rated speed rpm	
Rack travel in mm Tolerance mm	: 0.50 : + 0.20
acycanon enning	
governor spring pre-tension	

Rated speed rpm Aneroid pressure	: 1100
hPa	: 1200
Del. quantity cm3/1000 strokes	: 116.9
Tolerance cm3/1000 strokes	: +- 1.0
Check tolerance cm3/1000s.	: +- 3.0
Spreed Tolerance	
cm3/1000 strokes	: 4.0
Check tolerance cm3/1000S.	: 6.5
CONTROL LEVER	
control lever position degree tolerance degree	: 100.0 : +- 4.0
RATED SPEED rack travel mm Rated speed rpm	: 12.20
Tolerance 1/min	: 1155 : +- 5
	: 1755 : + 5 : 6.50 : 1215 : + 5
Tolerance 1/min rack travel mm Rated speed rpm	: + 5 : 6.50 : 1215
Tolerance 1/min rack travel mm Rated speed rpm Tolerance 1/min rack travel mm Tolerance mm	: + 5 : 6.50 : 1215 : + 5 : 0.85 : + 0.55

control lever
position degree : 80.0
tolerance degree : + 4.0

Control lever difference
Grad : 20.0
tolerance degree : + 6.0

Setting point w/out bumper spring

Rated speed rpm : 475 rack travel mm : 4.70 Tolerance mm : +- 0.10

Rated speed rpm	: 100	+ Del. quantity + cm3/1000 strokes : 133.0
CRT mm min.	: > 19.00	+ Tolerance
Testing:		- cm3/1000 strokes : +- 2.0 Check tolerance
Rated speed rpm rack travel mm Tolerance mm	: 5.20	- cm3/1000s. : +- 4.0
		∔ hPa : -
rack travel mm Rated speed rpm Tolerance 1/min	: 550	Rated speed rpm : 500 Del. quantity cm3/1000 strokes : 85.9
Toterance Trillin	. +- 50	+ Tolerance - cm3/1900 strokes : +- 1.0
TORQUE CONTROL		+ Check tolerance
Rated speed rpm rack travel mm Tolerance mm	: 13.20	cm3/1000s. : +- 3.0
Rated speed rpm rack travel mm		STARTING FUEL DELIVERY
Tolerance mm		Rated speed rpm : 100
		+ Rated speed rpm : 100 + rack travel mm : 20.50
A		Tolerance mm : +- 0.50
ANEROID/ALTITUDE		+ Del. quantity
COMPENSATOR TEST		+ cm3/1000 strokes : 120.5
		+ Tolerance
CETTING		+ cm3/1000 strokes : +- 10.0
SETTING		+ Check tolerance cm3/1900s. : +- 15.0
Rated speed rpm	: 500	
Pressure hPa		
	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	+
Rated speed rpm	: 500	
Pressure hPa	: - <u>-</u>	+ LOW IDLE
rack travel mm		+
Tolerance mm	: 0.20	+ Rated speed rpm : 475
MEASUREMENT		Rack travel in mm : 5.20
TICHOON CITETT		+ Tolerance mm : +- 0.10
Rated speed rpm	: 500	- Del. quantity
, ,		- cm3/1000 strokes : 21.5
Pressure hPa	: 700	+ Tolerance
rack travel mm	: 12.50	+ cm3/1000 strokes : +- 2.0
Tolerance mm	: +- 0.20	+ Check tolerance
D	. 500	+ cm3/1000s. : +- 4.5
Pressure hPa	: 500 : 11.00	+ Spreed + Tolerance
rack travel mm Tolerance mm		+ cm3/1000 strokes : 6.0
roterance min	. +- 0.20	Check tolerance
		- cm3/1000s. : 8.0
)
		
FUEL DELIVERY CHA	ARACTERISTICS	+
	ARACTERISTICS	T
Aneroid pressure		End of test specification short
	: 1200	End of test specification sheet

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition

: 05.06.97 : ISO 4113

Test oil

Combination No. : F 002 AOZ 011

Injection pump

Pump designation : PES6A95D320/3RS2881

EP type number : 9 410 037 215

Governor

Governer design. : RSV475...1100A0C888R

Governer no.

: F 002 A20 212

Cust. part No. : 3930164

Customer-spec. information Customer : CUMMINS Motor : 6BTA Power KW : 124.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

40 temp. °C Tolerance °C : +- 2.0

Overflow valve : 2 417 413 093

Inlet press. bar : 2.0

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

: 208.5 bar Tolerance bar : +- 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Tast pressure bar: 17.0 Tolerance bar : +- 1.0

Prestroke mm : 2.85
Tolerance mm : +- 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm : 10.50 Tolerance mm : +- 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

: +- 0.50 Tolerance

Check

tolerance °NW : +- 0.75

Start of delivery blocking

*NW after s.o.d. : 7.50 Tolerance $: \leftarrow 0.10$

Check

tolerance °NW : +- 0.29

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm: 13.65

Tolerance mm : +- 0.05	Rated speed rpm : 1050 Aneroid pressure
Del. quantity cm3/1000 strokes : 116.0	hPa : 1200 Del. quantity
Tolerance	cm3/1000 strokes : 116.0 Tolerance
cm3/1000 strokes : + 1.0	cm3/1000 strokes : +- 1.0 Check tolerance
Check tolerance cm3/1000s. : + 3.0	cm3/1000s. : +- 3.0 Spreed Tolerance
Spreed	cm3/1000 strokes : 4.0
Tolerance cm3/1000 strokes : 4.0	Check tolerance cm3/1000s. : 6.5
Check tolerance cm3/1000s. : 6.5	CONTROL LEVER
Rated speed rpm : 475	control lever position degree : 94.0 tolerance degree : +- 4.0
Rack travel in mm: 5.95 Tolerance mm: + 0.10 Del. quantity	RATED SPEED rack travel mm : 12.70 Rated speed rpm : 1115
cm3/1000 strokes : 20.6 Tolerance	Tolerance 1/min : +- 5
cm3/1000 strokes : + 2.0 + Check tolerance +	rack travel mm : 4.00 Rated speed rpm : 1185
cm3/1000s. : +- 4.5 Spreed	Tolerance 1/min : +- 15
Tolerance + cm3/1000 strokes : 6.0 + Check tolerance +	rack travel mm : 0.85 Tolerance mm : +- 0.55 Rated speed rpm : 1300
cm3/1000s. : 8.0	rack travel mm : 4.00 Rated speed rpm : 1190
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	Tolerance 1/min : +- 15
	
GUIDE SLEEVE POSITION	LOW IDLE
control lever position degree : FREE Rated speed rpm : 800	control lever position degree : 75.0 tolerance degree : +- 4.0
Rack travel in mm: 0.50 Tolerance mm: + 0.20	Control lever difference Grad : 19.0 tolerance degree : +- 6.0
governor spring pre-tension	Setting point w/out bumper spring
click setting x : 2.50	Rated speed rpm : 475 rack travel mm : 5.45 Tolerance mm : +- 0.10
FULL LOAD DELIVERY AT FULL LOAD STOP +	roterance min : To U. (U

Rated speed rpm : 100 CRT mm min. : > 19.00 Testing: Rated speed rpm : 475 rack travel mm : 5.95 Tolerance mm : + 0.10 rack travel mm : 2.00
Rated speed rpm : 550
Tolerance 1/min : +- 30 TORQUE CONTROL Rated speed rpm : 1050 rack travel mm : 13.65 : +- 0.05 Tolerance mm Rated speed rpm : 750 ANEROID/ALTITUDE COMPENSATOR TEST SETTING Rated speed rpm : 500 Pressure hPa : 1200 Rated speed rpm : 500 Pressure hPa : 10.70 rack travel mm : Tolerance mm : +- 0.20 **MEASUREMENT** Rated speed rpm : 500 Pressure hPa : 550 rack travel mm : 12.50 Tolerance mm : +- 0.20 Pressure hPa : 400 rack travel mm : 11.85 Tolerance mm : +- 0.20 FUEL DELIVERY CHARACTERISTICS Aneroid pressure 1200 hPa

Tolerance cm3/1000 strokes : +- 2.0Check tolerance cm3/1000s. : +- 4.0 Aneroid pressure hPa Rated speed rpm : 500 Del. quantity cm3/1000 strokes : 83.9 Tolerance cm3/1000 strokes : +- 1.0Check tolerance cm3/1000s. : +- 3.0 STARTING FUEL DELIVERY Rated speed rpm : 100 rack travel mm : 20.50 Tolerance mm : +- 0.50 Del. quantity cm3/1000 strokes : 121.5 Tolerance cm3/1000 strokes : + 10.0Check tolerance cm3/1000s. : +- 15.0 LOW IDLE Rated speed rpm : 475 Rack travel in mm : 5.95 Tolerance mm : +- 0.10 Del. quantity cm3/1000 strokes : 20.6 Tolerance cm3/1000 strokes : +- 2.0Check tolerance : +- 4.5 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. 8.0 End of test specification sheet

Rated speed rpm :

cm3/1000 strokes : 120.0

Del. quantity

750

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 09.06.97 Edition : ISO 4113 Test oil

Combination No. : F 002 AOZ 033

Injection pump

Pump designation : PES6A95D320/3RS2881

EP type number : 9 410 037 215

Governor

Governer design. : RSV475...1050A0C911R

Governer no. : F 002 A20 223

Cust. part No. : 3283692

Customer-spec. information Customer : CUMMINS

: 6BT-155 PS/2100 Motor

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C Tolerance °C : +- 2.0

Overflow valve : 2 417 413 093

Inlet press. bar : 2.0 Tolerance bar : + 0.1

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

208.5 bar Tolerance bar : + 1.5

Test Lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : Tolerance bar : +- 1.0

Prestroke mm : 2.85 Tolerance mm : +- 0.05 Check

tolerance mm : +- 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-5- 3- 6- 2-

Phasing : 0-60-120-180-240

: -300

Tolerance : +-0.50

Check

tolerance °NW : +- 0.75

Start of delivery blocking

*NW after s.o.d. : 7.00

Tolerance : +- 0.10

Check

tolerance °NW : +- 0.29

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 13.40

Tolerance mm : +- (0.05	Del. quantity cm3/1000 strokes	: 113.0
Del. quantity cm3/1000 strokes : 1	13.0	Tolerance cm3/1000 strokes	
cm3/1000 strokes : 1		Check tolerance	
Tolerance cm3/1000 strokes : +-	1.0	cm3/1000S. Spreed	: +- 3.0
		Tolerance	
Check tolerance cm3/1000s. : +-	3.0	cm3/1000 strokes Check tolerance	: 4.0
Spreed		cm3/1000s.	: 6.5
·	Ŧ		
Tolerance cm3/1000 strokes :	4.0	CONTROL LEVER	
Check tolerance	/ 5	control lever	407.0
cm3/1000s. :	6.5	position degree tolerance degree	
	1	RATED SPEED	
Rated speed rpm : 4	75	rack travel mm	: 12.40
Deale through the are	F 90	Rated speed rpm Tolerance 1/min	: 1080
Rack travel in mm : Tolerance mm : +-	5.80 0.10	roterance i/min	: +- 5
Del. quantity	+	rack travel mm	: 4.00
cm3/1000 strokes : Tolerance	20.8	Rated speed rpm Tolerance 1/min	
cm3/1000 strokes : +-	2.0	roter ance Trigiti	
Check tolerance	+	rack travel mm	: 0.85
cm3/1000s. : +- Spreed	4.5	Tolerance mm Rated speed rpm	: +- 0.55 : 1300
Tolerance	+		
cm3/1000 strokes :	6.0	rack travel mm	: 4.00
Check tolerance cm3/1000s.	8.0	Tolerance mm Rated speed rpm	: +- 0.05 : 1185
	+	Tolerance 1/min	: +- 15
(B) SETTING OF INJECTION WITH GOVERNOR	PUMP		
WITH GOVERNOR	+		
		LOW IDLE	
GUIDE SLEEVE POSITION	+	control lever	
Rated speed rpm : 8	00 ‡	position degree	: 83.0
·	+	tolerance degree	
Rack travel in mm : +- (Setting point w/o	ut bumper spring
governor spring	+	Rated speed rpm	: 475
<pre>pre-tension click setting x :</pre>	4.50	rack travel mm Tolerance mm	: 5.30 : +- 0.10
cettor secting x .	7.50		
FULL LOAD DELIVERY AT FU	IL LOAD STOP	Rated speed rpm	: 100
	+	CRT mm min.	: > 19.00
Rated speed rpm : 10: Aneroid pressure	50	Testing:	
hPa : 12	oo I	resumy.	
_	•		

Rated speed rpm : 475 rack travel mm : 5.80 : ← 0.10 Tolerance mm Rated speed rpm : 2.00 550 Tolerance 1/min : ← 30 TORQUE CONTROL Rated speed rpm : 1050 rack travel mm : 13.40 Tolerance mm : + 0.05 Rated speed rpm : 750 ANEROID/ALTITUDE COMPENSATOR TEST SETTING Rated speed rpm : 500 1200 Pressure hPa : 500 Rated speed rpm : Pressure hPa 11.10 rack travel mm : +- 0.20 Tolerance mm **MEASUREMENT** Rated speed rpm : 500 Pressure hPa 700 rack travel mm : 12.60 Tolerance mm : + 0.20 Pressure hPa : 550 rack travel mm : 11.75 Tolerance mm : +- 0.20 FUEL DELIVERY CHARACTERISTICS Aneroid pressure 1200 hPa Rated speed rpm 750 Del. quantity cm3/1000 strokes : 119.5 Tolerance cm3/1000 strokes : \leftarrow 2.0 Check tolerance cm3/1000s. : +- 4.0

Aneroid pressure Rated speed rpm : 500 Del. quantity cm3/1000 strokes : 87.0 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 3.0 STARTING FUEL DELIVERY Rated speed rpm : 100 rack travel mm : 20.25 : +- 0.75 Tolerance mm Del. quantity cm3/1000 strokes : 121.5 Tolerance cm3/1000 strokes : +- 10.0Check tolerance cm3/1000s. : +- 15.0 LOW IDLE Rated speed rpm : 475 Rack travel in mm : 5.80 Tolerance mm: +- 0.10 Del. quantity cm3/1000 strokes : 20.8 Tolerance cm3/1000 strokes : +-Check tolerance cm3/1000s. : +- 4.5 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. 8.0 :

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 07.06.97 : ISO 4113

Combination No. : F 002 AOZ 051

Injection pump

Pump designation : PES4A95D320/3RS2920 EP type number : F 002 A10 012

Governor

Governer design. : RSV475...1050A0C931R

Governer no. : F 002 A20 237

Cust. part No. : 3283921

Customer-spec. information

Customer : CUMMINS

Motor

: CUMMINS-4BTA-3.9

Power KW

: 79.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C

40

Tolerance °C

: +- 2.0

Overflow valve : 2 417 413 093

Inlet press. bar : 2.0

Test nozzle holde

assembly

: 1 688 901 101

Opening pressure

bar

: 208.5

Tolerance bar : +- 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0 Tolerance bar : +- 1.0

Prestroke mm : 2.45 Tolerance mm : +- 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm: 10.50

Tolerance mm : +- 1.50

Firing order : 1-3-4-2

Phasing : 0-90-180-270

Start of delivery blocking

*NW after s.o.d. : 9.00 Tolerance : +- 0.10

Check

tolerance °NW : +- 0.29

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 13.30

Tolerance mm : +- 0.05

Del. quantity

cm3/1000 strokes : 115.0

Tolerance + cm3/1000 strokes : +- 1.0	Tolerance cm3/1000 strokes : +- 1.0 Check tolerance
Check tolerance cm3/1000s. : + 3.0	cm3/1000s. : +- 3.0 Spreed Tolerance
Spreed	cm3/1000 strokes : 4.0 Check tolerance
Tolerance cm3/1000 strokes : 4.0	cm3/1000s. : 6.5
Check tolerance cm3/1000s. : 6.5	CONTROL LEVER
Rated speed rpm : 475	<pre>control lever position degree : 99.0 tolerance degree : +- 4.0</pre>
Rack travel in mm : 6.25 Tolerance mm : + 0.10 Del. quantity cm3/1000 strokes : 22.0	RATED SPEED rack travel mm : 12.30 Rated speed rpm : 1110 Tolerance 1/min : +- 5
Tolerance cm3/1000 strokes : +- 2.0 Check tolerance cm3/1000S. : +- 4.5 Spreed	rack travel mm : 4.00 Rated speed rpm : 1195 Tolerance 1/min : +- 5
Tolerance + cm3/1000 strokes : 6.0 + Check tolerance +	rack travel mm : 0.85 Tolerance mm : +- 0.55 Rated speed rpm : 1500
cm3/1000s. : 8.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR	rack travel mm : 4.00 Rated speed rpm : 1195 Tolerance 1/min : +- 15
GUIDE SLEEVE POSITION	LOW IDLE
control lever position degree : FREE Rated speed rpm : 800	control lever position degree : 79.0 tolerance degree : +- 4.0
Rack travel in mm : 0.50 Tolerance mm : +- 0.20	Control lever difference Grad : 20.0 tolerance degree : +- 4.0
governor spring + pre-tension + click setting x : 2.50 +	Setting point w/out bumper spring
FULL LOAD DELIVERY AT FULL LOAD STOP	Rated speed rpm : 475 rack travel mm : 5.75 Tolerance mm : +- 0.10
Rated speed rpm : 1050 Aneroid pressure	Rated speed rpm : 100
hPa : 900 + Del. quantity +	CRT mm min. : > 19.00
cm3/1000 strokes : 115.0	Testing:

Rated speed rpm rack travel mm Tolerance mm	: 475 : 6.25 : + 0.10
rack travel mm Rated speed rpm Tolerance 1/min	: 2.00 : 550 : + 30
TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm	: 1050 : 13.30 : +- 0.05
Rated speed rpm rack travel mm Tolerance mm	: 750 : 14.40 : +- 0.20
ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Rated speed rpm Pressure hPa	: 500 : 900
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 500 : : 11.20 : +- 0.20
MEASUREMENT	
Rated speed rpm	: 500
Pressure hPa rack travel mm Tolerance mm	: 600 : 13.30 : + 0.20
rack travel mm	: 13.30
rack travel mm Tolerance mm Pressure hPa rack travel mm	: 13.30 : + 0.20 : 400 : 12.00 : + 0.20
rack travel mm Tolerance mm Pressure hPa rack travel mm Tolerance mm FUEL DELIVERY CHA Aneroid pressure hPa Rated speed rpm	: 13.30 : + 0.20 : 400 : 12.00 : + 0.20
rack travel mm Tolerance mm Pressure hPa rack travel mm Tolerance mm FUEL DELIVERY CHA Aneroid pressure hPa	: 13.30 : + 0.20 : 400 : 12.00 : + 0.20 RACTERISTICS : 900 : 750

Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.		+	500 75.9 1.0 3.0	_
STARTING FUEL DEL	[V:	ERY		
Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	:		100 20.50 0.50 121.4 10.0 15.0	
Lou To E				
LOW IDLE				
Rated speed rpm	:		475	
Rack travel in mm Tolerance mm Del. quantity	:	+	6.25 0.10	
	:		22.0	
cm3/1000 strokes				
Tolerance cm3/1000 strokes	:	+-	2.0	
Tolerance cm3/1000 strokes Check tolerance cm3/1000S. Spreed	:	+-	2.0 4.5	
Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	:	+-		

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 13.06.97 Test oil : ISO 4113

Combination No. : 0 402 034 700

Injection pump

Pump designation : PES4P120B120RS3379

EP type number : 0 412 024 702

Governor

Governer design. : RQV475...1100PA1314K Governer no. : 0 421 815 543

Cust. part No. : 3928601

Customer-spec. information Customer : CDC
Motor : 4BTA-A
Power KW : 93.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C : 40
Tolerance °C : +- 2.0

Overflow valve : 2 417 413 093

Inlet press. bar : 2.0
Tolerance bar : + 0.1

Test nozzle holde

: 1 688 901 103 assembly

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test Lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter: 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar: 17.0 Tolerance bar : +- 1.0

Prestroke mm : 3.60 Tolerance mm : +- 0.05 Check tolerance mm : +- 0.10

Rack travel in mm : 10.50 Tolerance mm : +- 1.50

Firing order : 1- 3- 4- 2

Phasing : 0-90-180-270

Start of delivery blocking

°NW after s.o.d. : 6.00 Tolerance : \leftarrow 0.50 Check

tolerance °NW : + 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm: 11.55 Tolerance mm : \leftarrow 0.05

Del. quantity

cm3/1000 strokes : 142.0

Tolerance + 1.0 + 1.0	guide sleeve travel mm : 13.50 Tolerance mm : +- 0.50
Check tolerance cm3/1000s. : +- 4.0	
Spreed	FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1100
Tolerance cm3/1000 strokes : 8.0	Rated speed rpm : 1100 Aneroid pressure hPa : 1200 Del. quantity
Check tolerance cm3/1000s. : 12.0	cm3/1000 strokes : 142.0 Tolerance cm3/1000 strokes : +- 1.0
Rated speed rpm : 475	Check tolerance cm3/1000s. : +- 4.0 Spreed
Rack travel in mm: 6.10 Tolerance mm: :+ 0.10 Del. quantity cm3/1000 strokes: 31.0	Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0
Tolerance cm3/1000 strokes : + 3.0 Check tolerance	CONTROL LEVER
cm3/1000s. : + 5.0 Spreed Tolerance	control lever position degree : 111.0
<pre>cm3/1000 strokes : 4.0 Check tolerance cm3/1000s. : 8.0</pre>	tolerance degree : +- 4.0 RATED SPEED
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	rack travel mm : 10.50 Rated speed rpm : 1155 Tolerance 1/min : +- 15 rack travel mm : 6.60
GUIDE SLEEVE TRAVEL	Rated speed rpm : 1230 Tolerance 1/min : + 5
Rated speed rpm : 1163 guide sleeve travel mm : 7.66 Tolerance mm : + 0.15	rack travel mm : 0.50 Tolerance mm : +- 0.50 Rated speed rpm : 1350
Rated speed rpm : 475 guide sleeve travel mm : 1.59 Tolerance mm : + 0.20	LOW IDLE
Rated speed rpm : 931 guide sleeve travel mm : 5.89 Tolerance mm : + 0.25	control lever position degree : 70.0 tolerance degree : +- 4.0
Rated speed rpm : 670 guide sleeve travel mm : 3.53	Control lever difference Grad : 43.0 tolerance degree : +- 6.0
Tolerance mm : +- 0.25 Rated speed rpm : 1660	Setting point w/out bumper spring Rated speed rpm : 400

CRT mm min.	; > 7.40		Check speed 1/min	: < 425
Testing:	/ 7 F	Ī	FUEL DELIVERY CHA	RACTERISTICS
Rated speed rpm rack travel mm Tolerance mm	: 475 : 6.10 : + 0.10		Aneroid pressure	4200
Rated speed rpm	: 550	‡	hPa Rated speed rpm Del. quantity	
TORQUE CONTROL Rated speed rpm	: 1100_	+	cm3/1000 strokes Tolerance cm3/1000 strokes	: +- 3.0
rack travel mm Tolerance mm		+	Check tolerance cm3/1000s. Spreed	
Rated speed rpm rack travel mm Tolerance mm	: 750 : 11.40 : + 0.20	+	Tolerance cm3/1000 strokes Check tolerance	
Rated speed rpm rack travel mm	: 550		cm3/1000s.	
Tolerance mm	: +- 0.20	+	Aneroid pressure hPa Rated speed rpm	: -
ANEROID/ALTITUDE COMPENSATOR TEST		‡	Del. quantity cm3/1000 strokes Tolerance	
SETTING		‡	cm3/1000 strokes Check tolerance	
Rated speed rpm Pressure hPa	: 1100 : 1200	†	cm3/1000s.	: +- 3.0
Rated speed rpm Pressure hPa	: 1100 : - : 9.60	+	STARTING FUEL DEL	
Pressure hPa rack travel mm Tolerance mm	: 9.60 : + 0.20	+	Rated speed rpm rack travel mm Tolerance mm	
MEASUREMENT Rated speed rpm	: 1100	+	Del. quantity cm3/1000 strokes Tolerance	: 169.0
Pressure hPa rack travel mm Tolerance mm	: 765	‡	cm3/1000 strokes Check tolerance cm3/1000s.	: +- 20.0 : +- 25.0
Pressure hPa rack travel mm	: 600 : 10.00	-		
Tolerance mm	: +- 0.20	+	LOW IDLE Rated speed rpm	• 475
Start interlock		+	Rack travel in mm	
Rated speed rpm Rated speed rpm		+	Tolerance mm Del. quantity cm3/1000 strokes	: +- 0.10
Check speed 1/min	: > 80	+	Tolerance cm3/1000 strokes	

F25

: +-	5.0
:	4.0
:	8.0
	: +-

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition

: 13.06.97 Test oil : ISO 4113

Combination No. : 0 402 736 813

Injection pump

Pump designation : PES6P110A120RS7214 EP type number : 0 412 716 805

Governor

Governer design. : RQV350...1100PA964

: -5K

Governer no. : 0 421 815 257

Cust. part No. : 3921772

Customer-spec. information Customer : CDC Motor : 6CTA-A Power KW : 187.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

: 40 temp. °C Tolerance °C : +- 2.0

Overflow valve : 2 417 413 093

Inlet press. bar : 1.5 Tolerance bar : \leftarrow 0.1

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

: 208.5 Tolerance bar : +- 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter: 2.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0 Tolerance bar : +- 1.0

Prestroke mm : 4.40 Tolerance mm : +- 0.03

Check

tolerance mm : +- 0.10

Rack travel in mm : 10.50

Tolerance mm : +-- 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

: +- 0.30 Tolerance

Check

: +- 0.75 tolerance °NW

Start of delivery blocking

*NW after s.o.d. : 5.50 Tolerance : +- 0.50

Check

tolerance °NW : +- 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 14.55

Tolerance mm : +- 0.05	guide sleeve travel mm : 5.30
Del. quantity - cm3/1000 strokes : 187.5	Tolerance mm : +- 0.20
Tolerance - cm3/1000 strokes : + 1.0	Rated speed rpm : 1200 guide sleeve travel mm : 9.80
Check tolerance	Tolerance mm : ← 0.20
cm3/1000s. : + 4.0 -	GUIDE SLEEVE POSITION
opi eeu	
Tolerance cm3/1000 strokes : 5.0 -	control lever position degree : - 1
Check tolerance cm3/1000s. : 9.0	FULL LOAD DELIVERY AT FULL LOAD STOP
	Rated speed rpm : 1100 Aneroid pressure
Rated speed rpm : 350 -	hPa : 1500
Rack travel in mm : 5.60	+ Del. quantity + cm3/1000 strokes : 187.5
Rack travel in mm: 5.60 - Tolerance mm: + 0.10 -	Tolerance
Del. quantity	cm3/1000 strokes : + 1.0
cm3/1000 strokes : 30.0	Check tolerance
Tolerance -	+ cm3/1000s. : +- 4.0
cm3/1000 strokes : +- 3.0 Check tolerance	+ Spreed + Tolerance
cm3/1000s. : + 5.0	cm3/1000 strokes : 5.0
Spreed	Check tolerance
Tolerance - cm3/1000 strokes : 8.0 -	cm3/1000s. : 9.0
cm3/1000 strokes : 8.0 - Check tolerance	I
cm3/1000s. : 12.0	
•	CONTROL LEVER
(B) SETTING OF INJECTION PUMP	t control lever
WITH GOVERNOR	position degree : 118.0
	tolerance degree : +- 4.0
GUIDE SLEEVE TRAVEL	+ RATED SPEED
GOIDE SEEEVE TRAVEE	rack travel mm : 13.50
Rated speed rpm : 1000	Rated speed rpm : 1150
guide sleeve	Tolerance 1/min : +- 5
travel mm : 8.20 - Tolerance mm : + 0.10 -	† + rack travel mm : 4.00
TOTE AT LE THAIL	+ rack travel mm : 4.00 + Rated speed rpm : 1305
Rated speed rpm : 350	Tolerance 1/min : + 15
guide sleeve	+
travel mm : 1.90 - Tolerance mm : + 0.10 -	+ rack travel mm : 0.50 + Tolerance mm : +- 0.50
Tolerance mm : +- 0.10	Tolerance mm : + 0.50 Rated speed rpm : 1400
Rated speed rpm : 450	1
guide sleeve	†
travel mm : 3.30	
Tolerance mm : +- 0.20	LOW IDLE
Rated speed rpm : 600	1

control lever position degree : 67.0 tolerance degree : +- 4.0
Control lever difference Grad : 51.0 tolerance degree : +- 4.0
Setting point w/out bumper spring
Rated speed rpm : 275
CRT ram min. : > 7.20
Testing:
Rated speed rpm : 350 mack travel mm : 5.60 Tolerance mm : + 0.10
Rated speed rpm : 425
TORQUE CONTROL Rated speed rpm : 1100 rack travel mm : 14.55 Tolerance mm : + 0.05
Rated speed rpm : 650 rack travel mm : 13.60 Tolerance mm : + 0.10
Rated speed rpm : 500 rack travel mm : 13.10 Tolerance mm : + 0.20
ANEROID/ALTITUDE COMPENSATOR TEST
SETTING
Rated speed rpm : 1100 Pressure hPa : 1500
Rated speed rpm : 1100 Pressure hPa : - rack travel mm : 7.90 Tolerance mm : + 0.20
MEASUREMENT
Rated speed rpm : 1100
Pressure hPa : 845 rack travel mm : 13.80 Tolerance mm : + 0.20

Pressure hPa rack travel mm Tolerance mm	: 335 : 10.15 : +- 0.05
Start interlock	
Rated speed rpm Rated speed rpm	: > 100 : < 290
Check speed 1/min Check	: > 80
speed 1/min	: < 300
FUEL DELIVERY CHA	RACTERISTICS
Aneroid pressure hPa Rated speed rpm	: 1500 : 650
Del. quantity cm3/1000 strokes Tolerance	: 203.5
cm3/1000 strokes Check tolerance	: +- 3.0
cm3/1000s. Spreed	: +- 6.0
Tolerance cm3/1000 strokes	: 8.0
Check tolerance cm3/1000s.	: 12.0
Aneroid pressure	
hPa Rated speed rpm Del. quantity	: – : 500
cm3/1000 strokes Tolerance	: 93.0
cm3/1000 strokes Check tolerance	: +- 2.0
cm3/1000s.	: +- 4.0
STARTING FUEL DEL	IVERY
Rated speed rpm rack travel mm Tolerance mm	: 100 : 11.30 : + 0.50
Del. quantity cm3/1000 strokes Tolerance	: 155.0
cm3/1000 strokes Check tolerance	: +- 20.0
cm3/1000s.	: +- 25.0

Rated speed rpm	:	350	
Rack travel in mm Tolerance mm Del. quantity	: +-	5.60 0.10	
3.4000	:	30.0	
cm3/1000 strokes Check tolerance	: +-	3.0	
cm3/1000s. Spreed	: +-	5.0	
Tolerance			
cm3/1000 strokes Check tolerance	:	8.0	
cm3/1000s.	:	12.0	

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 17.06.97 Test oil : ISO 4113

Combination No. : 0 402 736 913

Injection pump

Pump designation : PES6P120A120RS7369 EP type number : 0 412 726 935

Governor

Governer design. : RQV400...1400PA1211

: -1K

Governer no. : 0 421 815 530

Cust. part No. : 3931538

Customer-spec. information Customer : CDC
Motor : 6BTA-A
Power KW : 160.0

TEST BENCH REQUIREMENTS

Inlet Line : 3.2

Test oil inlet temp. °C : 40 Tolerance °C : +- 2.0

Overflow valve : 2 417 413 093

Inlet press. bar : 2.0
Tolerance bar : + 0.1

Test nozzle holde

: 1 688 901 103 assembly

Opening pressure
: 208.5 Tolerance bar : + 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter: 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0 Tolerance bar : +- 1.0

Prestroke mm : 3.00 Tolerance mm : + 0.05 Check

tolerance mm : +- 0.10

Rack travel in num: 12.00 Tolerance mm : \leftarrow 0.50

Firing order : 1-5-3-6-2-

: 0-60-120-180-240 Phasing

Start of delivery blocking

*NW after s.o.d. : 6.75 Tolerance : + 0.50

Check

tolerance *NW : +- 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1300

Rack travel in mm : 14.45 Tolerance mm : + 0.05

Del. quantity cm3/1000 strokes : 180.0	+ Tolerance mm : +- 0.25 + Rated speed rpm : 512
Tolerance cm3/1000 strokes : +- 1.0	guide sleeve + travel mm : 3.37
Check tolerance	Tolerance mm : +- 0.25
cm3/1000s. : +- 4.0	Rated speed rpm : 1000 guide sleeve
Spreed	travel mm : 5.53 Tolerance mm : +- 0.25
Tolerance cm3/1000 strokes : 8.0	Rated speed rpm : 2130 guide sleeve
Check tolerance cm3/1000s. : 13.0	travel mm : 13.50 Tolerance mm : + 0.50
	FULL LOAD DELIVERY AT FULL LOAD STOP
Rated speed rpm : 420	Rated speed rpm : 1300
Rack travel in mm : 6.10 Tolerance mm : +- 0.20	Aneroid pressure hPa : 1500
Del. quantity cm3/1000 strokes : 16.5	Del. quantity + cm3/1000 strokes : 180.0
Tolerance	+ Tolerance
cm3/1000 strokes : +- 3.0 Check tolerance	cm3/1000 strokes : +- 1.0 Check tolerance
cm3/1000s. : +- 5.0 Spreed	+ cm3/1000s. : +- 4.0 + Spreed
Tolerance cm3/1000 strokes : 3.0	Tolerance cm3/1000 strokes : 8.0
Check tolerance cm3/1000s. : 7.0	+ Check tolerance - cm3/1000s. : 13.0
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	CONTROL LEVER
GUIDE SLEEVE TRAVEL	+ control lever + position degree : 118.0
Rated speed rpm : 1410	tolerance degree : +- 6.0
guide sleeve	RATED SPEED
travel mm : 8.73 Tolerance mm : + 0.25	rack travel mm : 13.40 Rated speed rpm : 1450
Rated speed rpm : 400	+ Tolerance 1/min : + 25 +
guide sleeve travel mm : 2.01	+ rack travel mm : 5.50 + Rated speed rpm : 1650
Tolerance mm : +- 0.25	Tolerance 1/min : +- 5
Rated speed rpm : 1488 guide Sleeve	rack travel mm : 0.50 Tolerance mm : + 0.50
travel mm : 9.53	Rated speed rpm : 1875
Tolerance mm : + 0.25	‡
Rated speed rpm : 462 guide sleeve	<u> </u>
travel mm : 2.91	+ LOW IDLE

G04

control lever position degree : 68.0 tolerance degree : +- 6.0
Control lever difference Grad : 50.0 tolerance degree : +- 6.0
Setting point w/out bumper spring
Rated speed rpm : 300
CRT mm min. :> 8.70
Testing:
Rated speed rpm : 420 rack travel mm : 6.10 Tolerance mm : +- 0.20
Rated speed rpm : 425
TORQUE CONTROL Rated speed rpm : 1300 rack travel mm : 14.45 Tolerance mm : + 0.05
Rated speed rpm : 800 rack travel mm : 11.80 Tolerance mm : +- 0.20
Rated speed rpm : 1100 rack travel mm : 13.30 Tolerance mm : +- 0.20
ANEROID/ALTITUDE COMPENSATOR TEST
SETTING
Rated speed rpm : 1300 Pressure hPa : 1500
Rated speed rpm : 1300 Pressure hPa : - rack travel mm : 9.60 Tolerance mm : +- 0.20
MEASUREMENT
Rated speed rpm : 1300
Pressure hPa : 965 rack travel mm : 13.10 Tolerance mm : +- 0.30

Pressure hPa rack travel mm Tolerance mm	: 390 : 10.80 : +- 0.20	
Start interlock		
Rated speed rpm Rated speed rpm	: > 100 : < 340	
Check speed 1/min Check	: > 80	
speed 1/min	: < 350	
FUEL DELIVERY CHA	RACTERISTICS	
Aneroid pressure	4500	
hPa Rated speed rpm Del. quantity	: 1500 : 800	
cm3/1000 strokes Tolerance	: 118.0	
cm3/1000 strokes Check tolerance	: + 3.0	
cm3/1000S. Spreed	: +- 6.0	
Tolerance cm3/1000 strokes Check tolerance	: 8.0	
cm3/1000s.	: 13.0	
Aneroid pressure		
Rated speed rpm Del. quantity	1300	
cm3/1000 strokes Tolerance		
cm3/1000 strokes Check tolerance cm3/1000s.	: +- 2.0 : +- 4.0	
CIII37 10003.	4.0	
STARTING FUEL DEL	IVERY	
Rated speed rpm rack travel mm Tolerance mm	: 100 : 12.80 : +- 0.50	
Del. quantity	. 157.0	

kated speed rpm	: 100
rack travel mm	: 12.80
Tolerance mm	: +- 0.50
Del. quantity	
cm3/1000 strokes	: 157.0
Tolerance	
cm3/1000 strokes	: +- 20.0
Check tolerance	
cm3/1000s.	: +- 25.0

Rated speed rpm	:	420	
Rack travel in mm Tolerance mm	: +-	6.10	
Del. quantity cm3/1000 strokes Tolerance	:	16.5	
cm3/1000 strokes Check tolerance	: +	- 3.0	
cm3/1000s. Spreed	: +	- 5.0	
Tolerance cm3/1000 strokes Check tolerance	:	3.0	
cm3/1000s.	;	7.0	

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 17.06.97 : ISO 4113

Combination No. : 9 400 030 737

Injection pump

Pump designation : PES6A95D320/3RS2881

EP type number : 9 410 037 215

Governor

Governer design. : RSV475...1100A0c850R

Governer no. : 9 420 034 716

Cust. part No. : 3929409

Customer-spec. information Customer : CDC Motor : 6BT Power KW : 90.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 2 417 413 093

Inlet press. bar : 2.0
Tolerance bar : + 0.1

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

: 208.5 har Tolerance bar : + 1.5

Test Lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0 Tolerance bar : +- 1.0

Prestroke mm : 2.85
Tolerance mm : + 0.05 tolerance mm : +- 0.10

Rack travel in mm : 10.50 Tolerance mm : +- 1.50

Firing order : 1-5-3-6-2-

Phasing : 0-60-120-180-240

Start of delivery blocking

*NW after s.o.d. : 7.00 Tolerance : \leftarrow 0.50

Check

tolerance *NW : +- 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 10.85 Tolerance mm : +- 0.05

G07

	+ Aneroid pressure
Del. quantity cm3/1000 strokes : 86.0	hPa :
	+ cm3/1000 strokes :
Tolerance	+ Tolerance
cm3/1000 strokes : +- 1.0	+ cm3/1000 strokes : +
Charle dalamana	+ Check tolerance
Check tolerance cm3/1000s. : +- 3.0	+ cm3/1000s. : +
cins/1000s 5.0	+ Spreed + Tolerance
Spreed	cm3/1000 strokes :
	+ Check tolerance
Tolerance	+ cm3/1000s. :
cm3/1000 strokes : 3.5	+
	+
Check tolerance	
cm3/1000s. : 6.0	+ CONTROL LEVER
	†
	control lever
Rated speed rpm : 500	<pre>position degree : + tolerance degree : +</pre>
Rated Speed Phili . 500	1 coterance degree : +
Rack travel in mm: 5.40	A RATED SPEED
Tolerance mm : +- 0.10	+ rack travel mm :
Del. quantity	+ Rated speed rpm :
cm3/1000 strokes : 18.5	+ Tolerance 1/min : +
Tolerance	+
$cm3/1000$ strokes : \leftarrow 2.0	+ rack travel mm :
Check tolerance	+ Rated speed rpm :
cm3/1000s. : +- 4.5	+ Tolerance 1/min : +
Spreed	+
Tolerance 7.5	+ rack travel mm :
cm3/1000 strokes : 3.5	+ Tolerance mm : +
Check tolerance cm3/10G0S. : 5.5	+ Rated speed rpm :
cm3/10G0S. : 5.5	rack travel mm :
	Rated speed rpm :
(B) SETTING OF INJECTION PUMP	+ Tolerance 1/min : +
WITH GOVERNOR	
	+
	+
GUIDE SLEEVE POSITION	+ LOW IDLE
	t
and the later of t	†
control lever position degree : - 3	+ control lever
position degree : - 3 Rated speed rpm : 800	<pre>position degree : tolerance degree : +</pre>
kated speed ripiii . 000	I toterance degree . *
Rack travel in mm: 0.50	Control lever differen
Tolerance mm : +- 0.20	+ Grad :
	+ tolerance degree : +
governor spring	+
pre-tension	+ Setting point w/out b
click setting $x : 4.50$	+
	+ Rated speed rpm :
FIGURE LAND DELTIMENT AT FIRE LAND OFFI	+ rack travel mm :
FULL LOAD DELIVERY AT FULL LOAD STOP	+ Tolerance mm : +
Rated speed rpm : 1100	+ Rated speed rpm :
Rated speed rpm : 1100	T waren sheen thin :

hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: + 1.0 : + 3.0
CONTROL LEVER	
control lever position degree tolerance degree	
RATED SPEED rack travel mm Rated speed rpm Tolerance 1/min	9.80 1165 +- 5
rack travel mm Rated speed rpm Tolerance 1/min	: 5.50 : 1220 : + 5
rack travel mm Tolerance mm Rated speed rpm	: 0.85 : +- 0.55 : 1350
rack travel mm Rated speed rpm Tolerance 1/min	: 5.50 : 1230 : + 15
LOW IDLE	
control lever position degree tolerance degree	: 87.0 : +- 4.0
Control lever dif- Grad tolerance degree	ference : 19.0 : + 6.0
Setting point w/o	ut bumper spring
Rated speed rpm rack travel mm Tolerance mm	: 500 : 4.90 : + 0.10
Rated speed rpm	: 100

CRT mm min. : > 19.00 Testina: Rated speed rpm 500 rack travel mm : 5.40 : +- 0.10 Tolerance mm TORQUE CONTROL Rated speed rpm : 1100 rack travel mm 10.85 Tolerance mm : +- 0.05 Rated speed rpm : 800 11.60 rack travel mm : : +- 0.10 Tolerance mm ANEROID/ALTITUDE COMPENSATOR TEST SETTING 800 Rated speed rpm : Pressure hPa **MEASUREMENT** 800 Pressure hPa 10.90 rack travel mm : +- 0.30 Tolerance mm FUEL DELIVERY CHARACTERISTICS Aneroid pressure hPa 800 Rated speed rpm : Del. quantity cm3/1000 strokes : 96.0 Tolerance cm3/1000 strokes : +-2.0 Check tolerance cm3/1000s.4.0 STARTING FUEL DELIVERY 100 Rated speed rpm : rack travel mm : 20.50 : +- 0.50 Tolerance mm

Tolerance cm3/1000 strokes : +- 10.0Check tolerance cm3/1000s. : +- 15.0 LOW IDLE Rated speed rpm : 500 Rack travel in mm: 5.40 : +- 0.10 Tolerance mm Del. quantity cm3/1000 strokes : 18.5 Tolerance cm3/1000 strokes : +-2.0 Check tolerance cm3/1000s.4.5 Spreed Tolerance cm3/1000 strokes : 3.5 Check tolerance 5.5 cm3/1000s.

End of test specification sheet

Del. quantity

cm3/1000 strokes : 120.5

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition

: 19.06.97

Test oil

: ISO 4113

Combination No. : F 002 A0Z 070

Injection pump

Pump designation : PES6A95D320/3RS2881

EP type number : 9 410 037 215

Governor

Governer design. : RSV475...1100A2C948R

Governer no. : F 002 A20 249

Cust. part No. : 3933621

Customer-spec. information Customer : CDC : 6BTA : 114.0 Motor Power KW

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C 40 Tolerance °C : +- 2.0

Overflow valve : 2 417 413 093

Inlet press. bar : 2.0 Tolerance bar : + 0.1

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

208.5 bar Tolerance bar : + 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar: 17.0 Tolerance bar : +- 1.0

Prestroke mm 2.85 : +- 0.05 Tolerance mm

Check

: +- 0.10 tolerance mm

Rack travel in mm : 10.50 Tolerance mm : +- 1.50

Firing order : 1-5- 3- 6- 2-

: 0-60-120-180-240 Phasing

: -300

Tolerance : +- 0.50

Check

tolerance $^{\circ}NW$: +- 0.75

Start of delivery blocking

*NW after s.o.d. : 8.50 Tolerance : + 0.50

Check

tolerance °NW : +- 0.75

Barrel no. : 7

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 12.35

G10

Tolerance mm	: +- 0.05	†
Del. quantity cm3/1000 strokes	: 105.5	+
Tolerance cm3/1000 strokes	; + 1.0	+
Check tolerance cm3/1000S.	: +- 3.0	++
Spreed		+
Tolerance cm3/1000 strokes	: 3.5	+++++++++++++++++++++++++++++++++++++++
Check tolerance cm3/1000S.	: 6.0	I
		Ì
Rated speed rpm	: 500	$\frac{1}{1}$
Rack travel in mm Tolerance mm	: 5.35 : +- 0.10	Ţ. -
Del. quantity cm3/1000 strokes Tolerance	: 22.0	Ī
cm3/1000 strokes Check tolerance	: +- 2.0	I
cm3/1000S. Spreed	: +- 4.5	Ī
Tolerance cm3/1000 strokes	: 3.5	+
Check tolerance cm3/1000s.	: 5.5	+
		‡
(B) SETTING OF IN VITH GOVERNOR	JECTION PUMP	+++++++++++++++++++++++++++++++++++++++
GUIDE SLEEVE POSI	rion	++++
		Ŧ
control lever position degree Rated speed rpm	: - 3 : 800	+
Rack travel in mm Tolerance mm	: 0.50 : + 0.20	Ŧ
governor spring ore-tension		Ŧ
		+

Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: 1100 : 1200 : 105.5 : +- 1.0 : +- 3.0 : 3.5 : 6.0
CONTROL LEVER	
position degree tolerance degree	
RATED SPEED rack travel mm Rated speed rpm Tolerance 1/min	: 11.30 : 1165 : +- 5
rack travel mm Rated speed rpm Tolerance 1/min	: 4.00 : 1245 : +- 5
rack travel mm Tolerance mm Rated speed rpm	: 0.85 : +- 0.55 : 1300
rack travel mm Rated speed rpm Tolerance 1/min	: 4.00 : 1250 : +- 15

control lever
position degree : 79.0
tolerance degree : +- 4.0
Control lever difference

Grad : 23.0 tolerance degree : + 6.0

Setting point w/out bumper spring

Rated speed rpm : 500 rack travel mm : 4.85 Tolerance mm : + 0.10

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: – : 10.60	LOW IDLE Rated speed rpm : 500 Rack travel in mm : 5.35
Rated speed rpm Pressure hPa	: 1200	cm3/1000s. : +- 15.0
ANEROID/ALTITUDE COMPENSATOR TEST		Del. quantity cm3/1000 strokes : 120.5 Tolerance cm3/1000 strokes : +- 10.0 Check tolerance
rack travel mm Tolerance mm Rated speed rpm rack travel mm Tolerance mm	: 900	STARTING FUEL DELIVERY Rated speed rpm : 100 rack travel mm : 20.50 Tolerance mm : + 0.50
Rated speed rpm rack travel mm Tolerance mm Rated speed rpm rack travel mm	: 13.65 : +- 0.20 : 1000	Tolerance : +- 1.0 Check tolerance cm3/1000s: +- 3.0
TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm	: 12.35	Aneroid pressure hPa : - Rated speed rpm : 500 Del. quantity cm3/1000 strokes : 85.0
Testing: Rated speed rpm rack travel mm Tolerance mm	: 5.35	Del. quantity cm3/1000 strokes : 122.5 Tolerance cm3/1000 strokes : +- 2.0 Check tolerance cm3/1000s. : +- 4.0
Rated speed rpm CRT mm min.		+ hPa : 1200 + Rated speed rpm : 900

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 13.06.97 : ISO 4113

Combination No. : F 002 ACZ 071

Injection pump

Pump designation : PES6A95D320/3RS2928

EP type number : F 002 A10 019

Governor

Governer design. : RSV450...900A4C949R

Governer no. : F 002 A20 247

Cust. part No. : 3933099

Customer-spec. information Customer : CDC

Motor : 6CT 8.3 Power KW : 104.3

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C : 40 Tolerance °C : + 2.0

Overflow valve : 2 417 413 093

Inlet press. bar : 2.0

Tolerance bar : + 0.1

Test nozzle holde

assembly

: 1 688 901 101

Opening pressure

har

: 208.5

Tolerance bar : + 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0

Tolerance bar : +- 1.0

Prestroke mm : 2.85
Tolerance mm : +- 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm : 10.50

Tolerance mm : +- 1.50

Firing order : 1-5-3-6-2-

: 4

: 0-60-120-180-240 : -300 : +- 0.50 Phasing

Tolerance

Check

tolerance °NW : +- 0.75

Start of delivery blocking

*NW after s.o.d. : 7.00

Tolerance : + 0.50 Check

tolerance °NW : +- 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 900

Rack travel in mm : 11.85 Tolerance mm : +- 0.05

Del. quantity	Aneroid pressure
cm3/1000 strokes : 109.0	Del. quantity cm3/1000 strokes : 109.0
Tolerance cm3/1000 strokes : +- 1.0	Tolerance cm3/1000 strokes : +- 1.0
Check tolerance cm3/1000s. : +- 3.0	Check tolerance cm3/1000s. : +- 3.0 Spreed
Spreed	Tolerance cm3/1000 strokes : 4.0
Tolerance cm3/1000 strokes : 4.0	Check tolerance cm3/1000s. : 6.5
Check tolerance cm3/1000s. : 6.5	CONTROL LEVER
Rated speed rpm : 425	control lever position degree : 108.5 tolerance degree : +- 4.0
Rack travel in mm: 8.90 Tolerance mm: + 0.10 Del. quantity cm3/1000 strokes: 32.0	RATED SPEED rack travel mm : 10.80 Rated speed rpm : 945 Tolerance 1/min : +- 5
Tolerance cm3/1000 strokes : +- 2.0 Check tolerance cm3/1000s. : +- 4.5 Spreed	rack travel mm : 4.00 Rated speed rpm : 995 Tolerance 1/min : +- 5
Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 8.0	rack travel mm : 0.85 Tolerance mm : + 0.55 Rated speed rpm : 1050
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	rack travel mm : 4.00 Rated speed rpm : 1000 Tolerance 1/min : + 15
GUIDE SLEEVE POSITION	LOW IDLE
control lever position degree : - 3 Rated speed rpm : 100	control lever position degree : 88.0 tolerance degree : + 4.0
Rack travel in mm: 0.50 Tolerance mm: + 0.20	Control lever difference Grad: 20.5 tolerance degree: +- 6.0
governor spring pre-tension	Setting point w/out bumper sp
click setting x : 3.25	Rated speed rpm : 100
FULL LOAD DELIVERY AT FULL LOAD STOP	CRT mm min. : > 19.00

88.0 4.0 e 20.5 6.0 per spring 100 19.00 Testing:

Rated speed rpm : 900

: 425 Rated speed rpm 8.90 rack travel mm : : +- 0.10 Tolerance mm

TORQUE CONTROL

900 Rated speed rpm : rack travel mm : 11.85 Tolerance mm : +- 0.05

STARTING FUEL DELIVERY

Rated speed rpm : 100 20.50 rack travel mm : Tolerance mm : +- 0.50 Del. quantity

cm3/1000 strokes : 119.0

Tolerence

cm3/1000 strokes : + 10.0Check tolerance

cm3/1000s. : +- 15.0

LOW IDLE

Rated speed rpm : 425

Rack travel in mm : 8.90 Tolerance mm : +- 0.10 Del. quantity cm3/1000 strokes : 32.0 Tolerance cm3/1000 strokes : + 2.0

Check tolerance : +- 4.5 cm3/1000s.

Spreed

Tolerance

cm3/1000 strokes : 6.0

Check tolerance

cm3/1000s. : 8.0

Note remarks

Refer to Service Info for test and adjustment instructions.

See microcard(s) W400/...

Edition : 17.06.97 Test oil : ISO 4113

Combination No. : 0 402 066 708

Injection pump

Pump designation : PES6P120A120RS3358

EP type number : 0 412 026 784

Governor

Governer design: RSV475...1150P2A619

Governer no. : 0 421 833 522

Cust. part No. : 3283019

Customer-spec. information

Customer : CDC

Motor : 6BTA-590 ELITE Power KW : 136.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 2 417 413 093

Inlet press. bar : 1.5

Overflow quantity

min. L/h : 100
Tolerance L/h : + 20.0

Test nozzle holde

assembly : 1 688 901 103

Opening pressure

208.5 bar Tolerance bar : + 1.5 Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter :

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 2.85
Tolerance mm: : +- 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm : 10.50

Tolerance mm : +- 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

: +- 0.50 Tolerance

Check

tolerance *NW : +- 0.75

Start of delivery blocking

*NW after s.o.d. : 6.75 Tolerance : + 0.10 Tolerance

Check

tolerance °NW : +- 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1150

+	
Rack travel in mm : 11.60 Tolerance mm : +- 0.05	FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1150
Del. quantity cm3/1000 strokes : 150.0	Rated speed rpm : 1150 Aneroid pressure hPa : 1500 Del. quantity
Tolerance cm3/1000 strokes : + 1.0	cm3/1000 strokes : 150.0 Tolerance cm3/1000 strokes : + 1.0
Check tolerance cm3/1000s. : + 3.0	Check tolerance cm3/1000s. : +- 3.0 Spreed
Spreed	Tolerance cm3/1000 strokes : 4.0
Tolerance cm3/1000 strokes : 4.0	Check tolerance cm3/1000s. : 7.5
Check tolerance cm3/1000s. : 7.5	CONTROL LEVER
Rated speed rpm : 470	control lever position degree : 106.0
Rack travel in mm : 5.30	tolerance degree : +- 4.0
Tolerance mm : +- 0.10	RATED SPEED
Del. quantity cm3/1000 strokes : 25.0	rack travel mm : 10.60 Rated speed rpm : 1195
Tolerance cm3/1000 strokes : + 2.0	Tolerance 1/min : +- 5
Check tolerance	rack travel mm : 4.00
cm3/1000s. : +- 4.5 +	Rated speed rpm : 1300 Tolerance 1/min : +- 15
Tolerance + cm3/1000 strokes : 6.0 +	rack travel mm : 0.85
Check tolerance cm3/1000s. : 9.0	Tolerance mm : +- 0.55 Rated speed rpm : 1400
1	
(B) SETTING OF INJECTION PUMP	Rated speed rpm : 1310
WITH GOVERNOR	Tolerance 1/min : +- 15
GUIDE SLEEVE POSITION	
	LOW IDLE
control lever position degree : -3 Rated speed rpm : 800	control lever position degree : 85.0 tolerance degree : +- 4.0
Rack travel in mm : 0.50 Tolerance mm : + 0.20	Setting point w/out bumper spring
governor spring pre-tension click setting x : 4.50	Rated speed rpm : 470 rack travel mm : 4.80 Tolerance mm : +- 0.10

Testing:	
Rated speed rpm rack travel mm Tolerance mm	: 470 : 5.30 : +- 0.10
rack travel mm Rated speed rpm Tolerance 1/min	: 2.00 : 610 : +- 30
TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm	: 1150 : 11.60 : +- 0.05
Rated speed rpm rack travel mm Tolerance mm	: 750 : 11.65 : + 0.10
ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 500 : 1500 : 11.65 : +- 0.10
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 500 : - : 8.50 : +- 0.20
MEASUREMENT	
Rated speed rpm	: 500
Pressure hPa rack travel mm Tolerance mm	: 900 : 11.00 : + 0.20
Pressure hPa	: 560 : 9.60

FUEL DELIVERY CHARACTERISTICS

hPa : 1500 Rated speed rpm : 750

Del. quantity cm3/1000 strokes : 167.0

Aneroid pressure

•	Tolerance			7.0	
•	cm3/1000 strokes Check tolerance	:	+-	3.0	
	cm3/1000s.	:	+-	6.0	
•	Spreed				
• • •	Tolerance			42.0	
	cm3/1000 strokes Check tolerance	:		12.0	
	cm3/1000s.	:		16.0	
•					
•	Anonord process				-
•	Aneroid pressure hFa	:		_	
	Rated speed rpm	:		500	
•	Del. quantity				
-	cm3/1000 strokes Tolerance	:		90.0	
•	cm3/1000 strokes	•	+-	2.0	
	Check tolerance	•	·	2.0	
•	cm3/1000S.	:	+-	4.0	
•					
-	STARTING FUEL DELI	ΙVi	ERY		
•				400	
•	Rated speed rpm rack travel mm	:		100 20.25	
	Tolerance mm	:	+	0.75	
	Del. quantity	٠			
	cm3/1000 strokes	:		165.0	
•	Tolerance cm3/1000 strokes	:	4	20.0	
	Check tolerance	•	-	20.0	
	cm3/1000S.	:	+-	25.0	
-					
•					
•	LOW IDLE				
•	Detect aread are			/20	
	Rated speed rpm	:		470	
	Rack travel in mm	:		5.30	
-	Tolerance mm	:	+	0.10	
-	Del. quantity cm3/1000 strokes			25.0	
-	Tolerance	:		25.0	
-	cm3/1000 strokes	:	+-	2.0	
	Check tolerance				
•	cm3/1000s.	:	+	4.5	
-	Spreed Tolerance				
	cm3/1000 strokes	:		6.0	
•	Check tolerance				
•	cm3/1000S.	:		9.0	
•					
_					

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 17.06.97 Test oil : ISO 4113

Combination No. : 0 402 076 748

Injection pump

Pump designation : PES6P110A720RS3305

: -1

EP type number : 0 412 016 742

Governor

Governer design. : RSV300...1100P1A555

Governer no. : 0 421 833 379

Cust. part No. : 9271058

Customer-spec. information Customer : LIEBHERR Motor : D 926 TI 210.0 Power KW

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet

temp. °C Tolerance °C : +- 2.0

Overflow valve : 1 417 413 049

Inlet press. bar : 1.5
Tolerance bar : +- 0.1

Overflow quantity

min. L/h : 130 Tolerance L/h : +- 10.0

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure bar : 207.5
Tolerance bar : +- 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 3.20
Tolerance mm : +- 0.05

tolerance mm : +- 0.10

Rack travel in mm : 10.50 Tolerance mm : +- 1.50

Firing order : 1-5- 3- 6- 2-

Phasing : 0-60-120-180-240

: -300

Tolerance : +- 0.50

Check

tolerance °NW : +- 0.75

Start of delivery mark

Tolerance : \leftarrow 0.10

Check

tolerance °NW : +- 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1000

G21

Rack travel in mm : 11.25 Tolerance mm : +- 0.05	Aneroid pressure hPa : 1100 Del. quantity cm3/1000 strokes : 165.0
Del. quantity cm3/1000 strokes : 165.0	Tolerance cm3/1000 strokes : + 1.0
Tolerance cm3/1000 strokes : +- 1.0	- Check tolerance - cm3/1000S. : +- 3.5 - Spreed
Check tolerance cm3/1000s. : +- 3.5	Tolerance cm3/1000 strokes : 4.0 Check tolerance
Spreed	cm3/1000s. : 7.5
Tolerance	
cm3/1000 strokes : 4.0	CONTROL LEVER
Check tolerance cm3/1000s. : 7.5	control lever position degree : 108.0 tolerance degree : +- 4.0
Rated speed rpm : 400	RATED SPEED rack travel mm : 10.25 Rated speed rpm : 1040
Rack travel in mm : 4.40 Tolerance mm : + 0.10	Tolerance 1/min : +- 5
Del. quantity cm3/100C strokes : 36.0	rack travel mm : 4.00 Rated speed rpm : 1095
Tolerance cm3/1000 strokes : +- 3.0	Tolerance 1/min : +- 15
Check tolerance cm3/1000s. : + 5.5 Spreed	+ rack travel mm : 0.85 + Tolerance mm : +- 0.55 + Rated speed rpm : 1260
Tolerance cm3/1000 strokes : 4.5	rack travel mm : 4.00
Check tolerance cm3/1000S. : 7.5	Rated speed rpm : 1100 Tolerance 1/min : +- 15
(B) SETTING OF INJECTION PUMP	+
WITH GOVERNOR	LOW IDLE
GUIDE SLEEVE POSITION	control lever position degree : 78.0 tolerance degree : +- 4.0
<pre>control lever position degree : - 3 Rated speed rpm : 800</pre>	Setting point w/out bumper spring
Rack travel in mm: 0.50 Tolerance mm: + 0.20	Rated speed rpm : 400 rack travel mm : 3.90 Tolerance mm : +- 0.10
FULL LOAD DELIVERY AT FULL LOAD STOP	Testing:
Rated speed rpm : 1000	Rated speed rpm : 400 rack travel mm : 4.40 Tolerance mm : +- 0.10

rack travel mm Rated speed rpm Tolerance 1/min	: 2.00 : 510 : +- 30
TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm	: 1000 : 11.25 : +- 0.05
Rated speed rpm rack travel mm Tolerance mm	: 600 : 11.25 : + 0.10
Rated speed rpm rack travel mm Tolerance mm	: 500 : 11.30 : + 0.10
ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 550 : 1100 : 11.25 : +- 0.05
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 550 : - : 9.75 : ← 0.10
MEASUREMENT	
Rated speed rpm	: 550
Pressure hPa rack travel mm Tolerance mm	: 650 : 11.00 : +- 0.05
Pressure hPa rack travel mm Tolerance mm	: 550 : 10.25 : +- 0.10
FUEL DELIVERY CHA	RACTERISTICS
Aneroid pressure hPa Rated speed rpm Del. quantity	: 1100 : 600
cm3/1000 strokes Tolerance cm3/1000 strokes	: 186.0 : +- 2.0

Check tolerance cm3/1000s.	: +- 5.0
Aneroid pressure hPa Rated speed rpm Del. quantity	: - : 550
cm3/1000 strokes Tolerance	: 152.5
cm3/1000 strokes	: +- 1.0
Check tolerance cm3/1000s.	: ← 3.5
STARTING FUEL DEL	IVERY
Rated speed rpm rack travel mm Tolerance mm Del. quantity	: 100 : 20.50 : +- 0.50
cm3/1000 strokes	: 145.0
Tolerance cm3/1000 strokes	: +- 10.0
Check tolerance cm3/1000s.	: +- 14.0
LOUITNIE	
LOW IDLE	
Rated speed rpm	: 400
Rack travel in mm Tolerance mm Del. quantity	: 4.40 : +- 0.10
cm3/1000 strokes Tolerance	: 36.0
cm3/1000 strokes	: +- 3.0
Check tolerance cm3/1000S. Spreed	: +- 5.5
Tolerance cm3/1000 strokes	: 4.5
Check tolerance cm3/1000s.	: 7.5

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 17.06.97 Edition Test oil : ISO 4113

Combination No. : 0 402 076 748A

Injection pump

Pump designation : PES6P110A720RS3305

: -1

EP type number : 0 412 016 742

Governor

Governer design. : RSV300...1100P1A555

Governer no. : 0 421 833 379

Cust. part No. : 9271058

Customer-spec. information Customer : LIEBHERR : D 926 TI Motor : 210.0 Power KW

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet

temp. °C Tolerance °C 2.0

Overflow valve : 1 417 413 049

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Overflow quantity

min. l/h : 130 Tolerance l/h : +- 10.0

Test nozzle holde

assembly : 1 688 901 101

Opening pressure

207.0 Tolerance bar : +- 1.5 Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter: 2.0 x Length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm 3.20 +- 0.05 Tolerance mm Check

: +- 0.10 tolerance mm

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

Phasing : 0-60-120-180-240

: -300

: +- 0.50 Tolerance

Check

tolerance °NW : +- 0.75

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm : 11.25

Tolerance mm : \leftarrow 0.05

Del. quantity cm3/1000 strokes : 165.0	Tolerance cm3/1000 strokes : +- 1.0 Check tolerance
Tolerance cm3/1000 strokes : + 1.0	cm3/1000s. : +- 3.5 Spreed Tolerance
Check tolerance cm3/1000s. : + 3.5	cm3/1000 strokes : 4.0 Check tolerance
Spreed	cm3/1000s. : 7.5
Tolerance cin3/1000 strokes : 4.0	CONTROL LEVER
Check tolerance cm3/1000s. : 7.5	control lever position degree : 108.0 tolerance degree : +- 4.0
Rated speed rpm : 400 Rack travel in mm : 4.40	RATED SPEED rack travel mm : 10.25 Rated speed rpm : 1025 Tolerance 1/min : +- 5
Tolerance mm : + 0.10 Del. quantity cm3/1000 strokes : 36.0 Tolerance	rack travel mm : 4.00 Rated speed rpm : 1095 Tolerance 1/min : +- 15
cm3/1000 strokes : + 3.0 Check tolerance cm3/1000S. : + 5.5 Spreed Tolerance	rack travel mm : 0.85 Tolerance mm : + 0.55 Rated speed rpm : 1260
cm3/1000 strokes : 4.5 Check tolerance cm3/1000s. : 7.5	rack travel mm : 4.00 Rated speed rpm : 1100 Tolerance 1/min : +- 15
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	LOW IDLE
GUIDE SLEEVE POSITION	control lever position degree : 78.0 tolerance degree : +- 4.0
control lever position degree : - 3 Rated speed rpm : 800	Setting point w/out bumper spring
Rack travel in mm : 0.50 Tolerance mm : + 0.20	Rated speed rpm : 400 rack travel mm : 3.90 Tolerance mm : + 0.10
FULL LOAD DELIVERY AT FULL LOAD STOP	Testing:
Rated speed rpm : 1000 Aneroid pressure	Rated speed rpm : 400 rack travel mm : 4.40 Tolerance mm : +- 0.10
hPa : 1100 Del. quantity cm3/1000 strokes : 165.0	rack travel mm : 2.00 Rated speed rpm : 510 Tolerance 1/min : +- 30

TORQUE CONTROL Rated speed rpm rack travel mm	: 1000 : 11.25
Tolerance mm	: +- 0.05
Rated speed rpm rack travel mm	: 600 : 11.25
Tolerance mm	: 11.25 : + 0.10
Rated speed rpm rack travel mm	: 500 : 11.30
Tolerance mm	: +- 0.10
ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Rated speed rpm Pressure hPa	: 550 : 1100
rack travel mm	: 11.25
Tolerance mm	: + 0.05
Rated speed rpm Pressure hPa	: 550 : -
rack travel mm Tolerance mm	: 9.75 : + 0.10
MEASUREMENT	
Rated speed rpm	: 550
Pressure hPa rack travel mm	: 650 : 11.00
Tolerance mm	: + 0.05
Pressure hPa	: 550
rack travel mm Tolerance mm	: 10.25 : +- 0.10
FIFT DELTHEDY ON	DACTED TOTAL CO
FUEL DELIVERY CHA	KACIEKI21102
Aneroid pressure	: 1100
Rated speed rpm Del. quantity	: 600
cm3/1000 strokes	: 186.0
Tolerance cm3/1000 strokes	: +- 2.0
Check tolerance cm3/1000s.	: + 5.0

Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: - : 550 : 152.5 : +- 1.0 : +- 3.5
STARTING FUEL DEL	IVERY
Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	
LOW IDLE	
Rated speed rpm	: 400
Rack travel in mm Tolerance mm Del. quantity	: 4.40 : +- 0.10
cm3/1000 strokes Tolerance	: 36.0
cm3/1000 strokes Check tolerance	: +- 3.0
cm3/1000s. Spreed	: +- 5.5
Tolerance cm3/1000 strokes	: 4.5
Check tolerance cm3/1000s.	: 7.5

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 16.06.97 Test oil : ISO 4113

Combination No. : 0 402 678 837

Injection pump

Pump designation : PE8P120A320LS7911 EP type number : 0 412 628 926

Governor

Governer design. : RSV550...1050POA679

Governer no. : 0 421 833 598

Cust. part No. : 027 074 6502

Customer-spec. information

Customer : MB-NFZ
Motor : OM442LA, Euro Motor

Power KW : 320.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40 Tolerance °C : + 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 2.0
Tolerance bar : +- 0.1

Overflow quantity
min. L/h : 110
Tolerance L/h : +- 10.0

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter: 3.0 x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm : 5.25 Tolerance mm : +- 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm : 20.50 Tolerance mm : +- 0.50

Firing order : 8-7-2-6-3 :-5-4-1

Phasing : 0-45-90-135-180

: -225-270-315

: +- 0.50 Tolerance

Check

tolerance °NW : +- 0.75

Start of delivery mark

Tolerance : \leftarrow 0.10

Check

tolerance *NW : +- 0.75

Barrel no. : 8

BASIC SETTING

Rated speed rpm : 1050

1	
Rack travel in mm: 14.50 Tolerance mm: +- 0.05	FULL LOAD DELTUEDY AT FULL LOAD GEOD
Tolerance mm : + 0.05	FULL LOAD DELIVERY AT FULL LOAD STOP
Del. quantity cm3/1000 strokes : 230.0	Rated speed rpm : 1050 Aneroid pressure
Tolerance	hPa : 1100 Del. quantity
cm3/1000 strokes : + 1.0	cm3/1000 strokes : 230.0 Tolerance
Check tolerance cm3/1000s. : +- 4.0	cm3/1000 strokes : +- 1.0 Check tolerance cm3/10005. : +- 4.6
Spreed	cm3/10005. : +- 4.0 Spreed Tolerance
Tolerance cm3/1000 strokes : 5.0	cm3/1000 strokes : 5.0 Check tolerance
Check tolerance	cm3/1000s. : 9.0
cm3/1000s. : 9.0	ASSEMBLY GOVERNOR SETTING
†	Pated speed ppm . 4005
Rated speed rpm : 550	Rated speed rpm : 1085 Tolerance 1/min : +- 1
The control of the co	rack travel mm : 13.50
Rack travel in mm: 4.40	
Tolerance mm : + 0.10	Rated speed rpm : 1125
Del. quantity + cm3/1000 strokes : 19.0 +	Tolerance 1/min : +- 4 rack travel nm : 4.00
Tolerance	Tack Craves limit . 4.00
cm3/1000 strokes : +- 3.0 +	rack travel mm : 0.85
Check tolerance	Tolerance mm : +- 0.55
cm3/1000s. : + 6.0	Rated speed rpm : 1300
Spreed + Tolerance +	
cm3/1000 strokes : 8.0	Rated speed rpm : 1087
Check tolerance	Tolerance 1/min : +- 1
cm3/1000s. : 12.0	rack travel mm : 13.50
I	Rated speed rpm : 1127
(B) SETTING OF INJECTION PUMP	Tolerance 1/min : +- 4
WITH GOVERNOR	rack travel mm : 4.00
1	rack travel mm : 0.85
	Tolerance mm : +- 0.55
GUIDE SLEEVE POSITION +	Rated speed rpm : 1300
control lever	Rated speed rpm : 1089
position degree : - 3	Tolerance 1/min : +- 1
Rated speed rpm : 800	rack travel mm : 13.50
Rack travel in mm: 0.50	Rated speed rpm : 1129
Tolerance mm : + 0.20	Tolerance 1/min : +- 4
+	rack travel mm : 4.00
governor spring	rack travel mm : 0.85
pre-tension + click setting x : 2.00 +	rack travel mm : 0.85 Tolerance mm : +- 0.55
	Rated speed rpm : 1300
+	

Rated speed rpm	: 1091
Tolerance 1/min	: + 1
rack travel mm	: 13.50
Rated speed rpm	: 1131
Tolerance 1/min	: + 4
rack travel mm	: 4.00
rack travel mm	: 0.85
Tolerance mm	: + 0.55
Rated speed rpm	: 1300
Rated speed rpm	: 1093
Tolerance 1/min	: + 1
rack travel mm	: 13.50
Rated speed rpm	: 1133
Tolerance 1/min	: +- 4
rack travel mm	: 4.00
rack travel mm	: 0.85
Tolerance mm	: + 0.55
Rated speed rpm	: 1300
Rated speed rpm	: 1095
Tolerance 1/min	: + 1
rack travel mm	: 13.50
Rated speed rpm	: 1135
Tolerance 1/min	: +- 4
rack travel mm	: 4.00
rack travel mm	: 0.85
Tolerance mm	: ← 0.55
Rated speed rpm	: 1300
LOW IDLE	
Testing:	
Rated speed rpm	: 550
rack travel mm	: 4.40
Tolerance mm	: + 0.10
SET IDLE AUXILIAR	RY SPRING
rack travel mm	: 2.00
TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm	: 1050 : 14.50 : +- 0.05
Rated speed rpm	: 600
rack travel mm	: 15.00

Tolerance mm	: +- 0.10
ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 500 : 1100 : 14.50 : + 0.10
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 500 : - : 11.10 : +- 0.20
MEASUREMENT	
Rated speed rpm	: 500
Pressure hPa rack travel mm Tolerance mm	: 500 : 12.00 : + 0.20
Pressure hPa rack travel mm Tolerance mm	: 600 : 13.00 : + 0.20
Toter arce min	. + 0.20
FUEL DELIVERY CHA	
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes	
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes	RACTERISTICS : 1100 : 600
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed	: 1100 : 600 : 256.0
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes	: 1100 : 600 : 256.0 : + 2.0
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance	: 1100 : 600 : 256.0 : + 2.0 : + 5.0
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000 strokes Check tolerance cm3/1000s. Aneroid pressure	: 1100 : 600 : 256.0 : + 2.0 : + 5.0 : 8.0 : 12.0
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000s. Aneroid pressure hPa Rated speed rpm	: 1100 : 600 : 256.0 : + 2.0 : + 5.0
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000 strokes Check tolerance cm3/1000s. Aneroid pressure hPa	: 1100 : 600 : 256.0 : + 2.0 : + 5.0 : 8.0 : 12.0

Check tolerance cm3/1000S. : +- 5.0

STARTING FUEL DELIVERY

Check tolerance

Rated speed rpm : 100
rack travel mm : 15.00
Tolerance mm : + 0.20
Del. quantity
cm3/1000 strokes : 250.0
Tolerance
cm3/1000 strokes : +- 10.0

: +- 14.0

LOW IDLE

cm3/1000s.

Rack travel in mm : 4.40
Tolerance mm : + 0.10
Del. quantity
cm3/1000 strokes : 19.0
Tolerance
cm3/1000s strokes : + 3.0
Check tolerance
cm3/1000s. : + 6.0
Spreed
Tolerance
cm3/1000 strokes : 8.0
Check tolerance
cm3/1000s. : 12.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 18.06.97 Test oil : 18.06.97

Combination No. : 0 402 736 862

Injection pump

Pump designation : PES6P110A120RS7214 EP type number : 0 412 716 805

Governor

Governer design. : RQV350...1200PA964

: -30K

Governer no. : 0 421 815 432

Cust. part No. : 3282469

Customer-spec, information Customer : CUMMINS Motor : 6CTA-A Power KW : 213.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

40 temp. °C Tolerance °C : + 2.0

Overflow valve : 2 417 413 093

Inlet press. bar : 1.5

Overflow quantity

min. l/h : 120 Tolerance l/h : + 5.0

Test nozzle holde

assembly : 1 688 901 101

Opening pressure

: 208.5 bar Tolerance bar : + 1.5 Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 23.0 Tolerance bar : +- 1.0

Prestroke mm : 4.40 Tolerance mm : +- 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : +~ 0.50

Check

tolerance *NW : +- 0.75

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm: 14.75

Tolerance mm : \leftarrow 0.05

Del. quantity

cm3/1000 strokes : 192.5

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance cm3/1000s. : +- 4.0	Check tolerance cm3/1000s. : 9.0
Spreed	
Tolerance cm3/1000 strokes : 5.0	CONTROL LEVER
Check tolerance cm3/1000s. : 9.0	position degree : 66.0 tolerance degree : + 4.0
Rated speed rpm : 350	<pre>control lever position degree : 122.0 tolerance degree : +- 4.0</pre>
Rack travel in mm: 5.60 Tolerance mm: + 0.10 Del. quantity cm3/1000 strokes: 30.0	RATED SPEED rack travel mm : 13.20 Rated speed rpm : 1250 Tolerance 1/min : +- 5
Tolerance cm3/1000 strokes : + 3.0 Check tolerance cm3/1000s. : + 5.0 Spreed	rack travel mm : 4.00 Rated speed rpm : 1405 Tolerance 1/min : +- 15
Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0	rack travel mm : 0.50 Tolerance mm : +- 0.50 Rated speed rpm : 1500
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	LOW IDLE
GUIDE SLEEVE POSITION	control lever position degree : 67.0 tolerance degree : +- 4.0
control lever position degree : -1 Rated speed rpm : 1260	control lever position degree : 15.0 tolerance degree : +- 4.0
Rack travel in mm: 16.50 Tolerance mm: +- 1.30	Setting point w/out bumper spring
	Rated speed rpm : 275
FULL LOAD DELIVERY AT FULL LOAD STOP	CRT mm min. : > 7.10
Rated speed rpm : 1100 Aneroid pressure	Testing:
hPa : 1200 + Del. quantity cm3/1000 strokes : 192.5 + Comparison of the comparison o	Rated speed rpm : 350 rack travel mm : 5.60 Tolerance mm : +- 0.10
Tolerance cm3/1000 strokes : + 1.0 check tolerance cm3/1000s. : +- 4.0	Rated speed rpm : 423
Spreed Tolerance cm3/1000 strokes : 5.0	TORQUE CONTROL Rated speed rpm : 1100 rack travel mm : 14.75

H04

Tolerance mm Rated speed rpm rack travel mm Tolerance mm Rated speed rpm rack travel mm Tolerance mm	: 650 : 12.80 : + 0.20 : 1200 : 14.30	Tolerance cm3/1000 strokes : +- 3.0 Check tolerance cm3/1000S. : +- 6.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000S. : 12.0
ANEROID/ALTITUDE COMPENSATOR TEST		Aneroid pressure hPa : - Rated speed rpm : 500 Del. quantity
SETTING		cm3/1000 strokes : 92.0 Tolerance
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 1200 : 14.75	cm3/1000 strokes : +- 2.0 Check tolerance cm3/1000s. : +- 4.0
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 1100 : − : 8.00 : ← 0.20	STARTING FUEL DELIVERY Set starting CRT at K-cam.
MEASUREMENT		Datadasaad muu 100
Rated speed rpm Pressure hPa rack travel mm Tolerance mm Pressure hPa rack travel mm Tolerance mm	: 785 : 13.00 : +- 0.20 : 335 : 9.65	Rated speed rpm : 100 rack travel mm : 11.20 Tolerance mm : + 0.50 Del. quantity cm3/1000 strokes : 155.0 Tolerance cm3/1000 strokes : + 20.0 Check tolerance cm3/1000s. : + 25.0
Start interlock		LOW IDLE
Rated speed rpm Rated speed rpm		Rated speed rpm : 350
Check speed 1/min Check speed 1/min	: > 80 : < 300	Rack travel in mm: 5.60 Tolerance mm: +- 0.10 Del. quantity cm3/1000 strokes: 30.0
FUEL DELIVERY CHA	ARACTERISTICS	Tolerance cm3/1000 strokes : +- 3.0 Check tolerance cm3/1000s. : +- 5.0
Aneroid pressure hPa Rated speed rpm	: 1200 : 650	Spreed Tolerance cm3/1000 strokes: 8.0 Check tolerance
Del. quantity cm3/1000 strokes	: 184.0	+ cm3/1000s. : 12.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition

: 25.06.97

Test oil

: ISO 4113

Combination No. : 0 401 496 002

Injection pump

Pump designation : PE6R130/720RS1503

EP type number : 0 411 436 001

Governor

Governer design. : RE31

Governer no. : 0 421 890 201

Cust. part No. :

Customer-spec. information

Customer : IVECO-FRANCE

Motor

: 8210.42.5000

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet

temp. °C

Tolerance °C

: +- 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 2.5

Tolerance bar : + 0.1

Test nozzle holde

assembly

: 1 688 901 105

Opening pressure

: 208.5

Tolerance bar

: + 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

Pump-specific values

in Section (B)

must be observed!

(A) INJECTION PUMP SETTINGS

No basic setting.

Setting of constant delivery

under Section C.

BEGINNING OF DELIVERY

Test pressure bar :

Tolerance bar : +- 1.0

Prestroke mm : t-7.00 : +- 0.05

Check

tolerance mm

: +- 0.10

Rack travel in mm : 13.50

Tolerance mm

: +- 0.50

Firing order

: 1-5-3-6-2-

: 0-60-120-180-240

Tolerance

Phasing

: -300 : +- 0.50

Check

tolerance °NW : + 0.75

Start of delivery blocking

Check

tolerance °NW

: +- 0.40

Barrel no. : 1

(B) POSITIONER TESTING Warm-up time: 3 minutes at n=600 min-1, Uact = 2.5 VTESTING & SETTING RACK TRAVEL SENSOR POSITION Engine speed min-1: Setting point (P, R and H pump) 3.100 Uact V 13.00 CRT mm Tolerance mm : +/- 0.05 Check tolerance mm : +/- 0.10Check value (P, R and H pump) Uact V : 1.700 CRT mm 6.15 Tolerance mm : +/- 0.25 Check tolerance mm : +/- 0.30 Setting point (amua M) 12.50 3.100 Uact V CRT mm : +/- 0.05 Tolerance mm Check : +/- 0.10 tolerance mm Check value (amuq M) 1.700 Uact V 5.50 CRT mm Tolerance mm : +/- 0.25 Check : +/- 0.30 tolerance mm Stop position Uact V : Value with deenergised adjusting magnet and control rod in stop position.

0.75

: +/- 0.25

: +/- 0.35

ENGINE-SPEED SENSOR (All P and R pumps not H and M pumps)

Test with control rod in stop position

Engine speed min-1: 60
Amplitude V: 1.4
Tolerance V: +/- 0.6

Check

tolerance V : +/- 1.20

Engine speed min-1: 600

Difference Amplitude to

Amplitude V : max.1.4

(C) INJECTION PUMP WITH POSITIONER

TEST POINT V1

Rated speed rpm : 950 Uact V : 3.218 Del. quantity cm3/1000 strokes : 279.0 Tolerance cm3/1000 strokes : + 1.0Check tolerance cm3/1000S. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 12.0 Check tolerance cm3/1000s. FUEL DELIVERY CHARACTERISTICS

Rated speed rpm : 750
Uact V : 3.218
Del. quantity
cm3/1000 strokes : 293.0
Tolerance
cm3/1000 strokes : +- 6.0
Check tolerance
cm3/1000s. : +- 10.0

Rated speed rpm : 550
Uact V : 2.300
Del. quantity
cm3/1000 strokes : 189.0
Tolerance
cm3/1000 strokes : +- 4.5
Check tolerance
cm3/1000s. : +- 9.0

80H

CRT mm

Check

Tolerance mm

tolerance mm

TEST POINT L1

Rated speed rpm 300 1.260 Uact V Tolerance Volt : + - 0.060Check tolerance : + - 0.120Volt Del. quantity cm3/1000 strokes : 24.0 Tolerance cm3/1000 strokes : +-3.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. 10.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
Uact V : 4.700
Del. quantity
cm3/1000 strokes : 145.0
Tolerance
cm3/1000 strokes : + 15.0
Check tolerance
cm3/1000s. : + 20.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 20.06.97 Test oil : ISO 4113

Combination No. : 0 401 846 529

Injection pump

Pump designation : PE6P12OA32ORS3186 EP type number : 0 411 826 756

Governor

Governer design. : RQV250...1025PA921

: -4

Governer no. : 0 421 813 787

Cust. part No. : 422719-P05 V. 06/92

Customer-spec. information

Customer : VOLVO-TRUCK
Motor : TD102F (Q)
Power KW : 220.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Vibration

damper

(RoBo diaphragm) : 4.2

Test oil inlet

temp. °C : 40 Tolerance °C : + 2.0

Overflow valve : 2 417 413 046

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Test nozzle holde

assembly : 1 688 901 019

Opening pressure

bar : 208.5 Tolerance bar : + 1.5 Test Lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 2.65 Tolerance mm : +- 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm : 10.50 Tolerance mm : +- 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : + 0.30

Check

tolerance °NW : +- 0.75

Start of delivery mark

Tolerance : + 0.30 Check tolerance *NW : + 0.75

totel allocation and a second

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 700

H10

	+
Rack travel in mm : 11.45 Tolerance mm : + 0.05	Rated speed rpm : 430 guide sleeve
No.	travel mm : 3.65
Del. quantity cm3/1000 strokes : 198.0	Tolerance mm : +- 0.15
Tolerance	Rated speed rpm : 700
cm3/1000 strokes : +- 1.0	<pre>guide sleeve travel mm : 6.50</pre>
chist topo attores . + 1.0	Tolerance mm : +- 0.10
Check tolerance	1 occi disce mili
cm3/1000S. : +- 4.0	
	+ GUIDE SLEEVE POSITION
Spreed	+
	+
Tolerance	t control lever
cm3/1000 strokes : 5.0	+ position degree : -1
	+ Rated speed rpm : 1080
Check tolerance	†
cm3/1000s. : 9.0	Rack travel in mm: 16.50
	Tolerance mm : + 1.30
	Ť
Rated speed rpm : 250	FULL LOAD DELIVERY AT FULL LOAD STOP
Naced speed rpm . 250	TOLL COAD DELIVERY AT FOLL LOAD STOP
Rack travel in mm: 4.30	+ Rated speed rpm : 700
Tolerance mm : +- 0.10	+ Aneroid pressure
Del. quantity	hPa : 1000
cm3/1000 strokes : 19.0	+ Del. quantity
Tolerance	+ cm3/1000 strokes : 198.0
cm3/1000 strokes : + 2.5	+ Tolerance
Check tolerance	+ cm3/1000 strokes : + 1.0
cm3/1000s. : + 5.0	+ Check tolerance
Spreed	+ cm3/1000s. : + 4.0
Tolerance	+ Spreed
cm3/1000 strokes : 5.0	Tolerance
Check tolerance	+ cm3/1000 strokes : 5.0
cm3/1000s. : 7.0	+ Check tolerance
	+ cm3/1000s. : 9.0
(C) OFTING OF THE POTTON DUMP	†
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	Ť
WITH GOVERNOR	T CONTROL LEVER
	CONTROL ELVER
GUIDE SLEEVE TRAVEL	+ control lever
	position degree : 62.0
Rated speed rpm : 1080	tolerance degree : + 4.0
guide sleeve	+
travel mm : 8.40	+ control lever
Tolerance mm : +- 0.10	position degree : 117.0
	tolerance degree : + 4.0
Rated speed rpm : 250	T DATES OFFER
guide sleeve	RATED SPEED
travel mm : 1.25	rack travel mm : 10.40
Tolerance mm : +- 0.05	+ Rated speed rpm : 1060 + Tolerance 1/min : +- 5
Rated speed rpm : 900	
guide sleeve	Track travel mm : 4.00
travel mm : 6.50	Rated speed rpm : 1125
Tolerance mm : +- 0.10	Tolerance 1/min : +- 15
TO COL GITTO HAIL . 7 U. TU	1 tocciding triutti . (2)

rack travel mm : 0.50
Tolerance mm : + 0.50
Rated speed rpm : 1250

LOW IDLE

control lever

bosition degree : 65.0

tolerance degree : + 4.0

control lever

position degree : 8.0 tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 100

CRT mm min. : > 5.70

Testing:

Rated speed rpm : 250 rack travel mm : 4.30 Tolerance mm : + 0.10

Rated speed rpm : 300

TORQUE CONTROL

Rated speed rpm : 700 rack travel mm : 11.45 Tolerance mm : + 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1000
rack travel mm : 11.45
Tolerance mm : +- 0.05

Rated speed rpm : 500
Pressure hPa : rack travel mm : 8.90
Tolerance mm : + 0.10

MEASUREMENT

Rated speed rpm : 500

Pressure hPa : 510 rack travel mm : 2.20 Tolerance mm : +- 0.20

Pressure hPa : 100 rack travel mm : 0.25 Tolerance mm : +- 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa : -Rated speed rpm : 700

Del. quantity

cm3/1000 strokes : 144.0

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance

cm3/1000s. : +- 4.0

LOW IDLE

Rated speed rpm : 250

Rack travel in mm: 4.30
Tolerance mm: +- 0.10
Del. quantity
cm3/1000 strokes: 19.0
Tolerance
cm3/1000 strokes: +- 2.5

Check tolerance cm3/1000S. : +- 5.0 Spreed

Tolerance

cm3/1000 strokes : 5.0

Check tolerance cm3/1000s.

7.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition

: 20.06.97 Test oil : ISO 4113

Combination No. : 0 402 036 756

Injection pump

Pump designation : PES6P120A720/3LS3255

: -3

EP type number : 0 412 026 774

Governor

Governer design. : RQ300/1000PA813-19

Governer no. : 0 421 801 561

Cust. part No. : 51.11103-7316

Customer-spec. information Customer : MAN

Motor

: D2866LF05

Power KW

: 272.0

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet

temp. °C

Tolerance °C

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5
Tolerance bar : +- 0.1

Test nozzle holde

assembly

: 1 688 901 019

Opening pressure

: 208.5

Tolerance bar : +- 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter: 3.0

x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar: 26.0

Tolerance bar : +- 1.0

Prestroke mm : 3.75 Tolerance mm : +- 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm: 15.00

Tolerance mm : + 0.50

Firing order : 6-2-4-1-5-

: 3

Phasing : 0-60-120-180-240

: -300 Tolerance : **←** 0.50

Check

tolerance °NW : +- 0.75

Start of delivery mark

Barrel no. : 6

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm: 15.15

Tolerance mm : +- 0.05

Rated speed rpm : 300

Rack travel in mm: 5		Tolerance mm : +- 0.10
Tolerance mm : +- 0 Del. quantity	1.10	GUIDE SLEEVE POSITION
cm3/1000 strokes : 2 Tolerance	0.0	
cm3/1000 strokes : +- Check tolerance	3.0	control lever position degree : 109
	6.0	Rated speed rpm : 550
Tolerance	8.0	Rack travel in mm : 20.00 Tolerance mm : +- 0.80
	2.0	DATED COTED
(B) SETTING OF INJECTION WITH GOVERNOR	PUMP	RATED SPEED rack travel mm : 14.10 Rated speed rpm : 1053 Tolerance 1/min : +- 8
CLIANE CLEENE TRAVEL		rack travel mm : 4.00
GUIDE SLEEVE TRAVEL	<u> </u>	Rated speed rpm : 1180 Tolerance 1/min : +- 15
Rated speed rpm : 105 guide sleeve	‡	rack travel mm : 0.50
travel mm : 6 Tolerance mm : + 0	5.53 1.10	Tolerance mm : +- 0.50 Rated speed rpm : 1300
Rated speed rpm : 30	10 ‡	
	.79	
Tolerance mm : +- 0	1.10	LOW IDLE
Rated speed rpm : 100 guide sleeve	10	control lever
	5.20 5.10	position degree : 254.0 tolerance degree : +- 4.0
Rated speed rpm : 81 guide sleeve	0	Setting point w/out bumper spring
	0.05 0.10	Rated speed rpm : 200
Rated speed rpm : 39	+	CRT mm min. : > 6.50
guide sleeve	07	Testing:
Tolerance mm : + 0		Rated speed rpm : 300 rack travel mm : 5.00
Rated speed rpm : 50 guide sleeve	0	rack travel mm : 5.00 Tolerance mm : +- 0.10
).00 -10	rack travel mm : 2.00 Rated speed rpm : 380
Rated speed rpm : 124	+	Tolerance 1/min : +- 20
	.50	TORQUE CONTROL
Tolerance mm : + 0	1.50	Rated speed rpm : 700 rack travel mm : 15.15
Rated speed rpm : 84 guide sleeve	.0	Tolerance mm : +- 0.05
	.15	Rated speed rpm : 1000

rack travel mm Tolerance mm	: 15.15 : +- 0.05	†
locerance nun	. — 0.05	Aneroid pressure
Rated speed rpm rack travel mm Tolerance mm	: 8.00	hPa : - Rated speed rpm : 700 Del. quantity
TOTAL MINE	0.10	+ cm3/1000 strokes : 94.0
ANEROID/ALTITUDE COMPENSATOR TEST		Tolerance cm3/1000 strokes : +- 5.0 Check tolerance
SETTING		+ cm3/1000s. : +- 8.0 + Spreed + Tolerance
Rated speed rpm Pressure hPa		cm3/1000 strokes : 10.0
rack travel mm Tolerance mm	: 15.15	Aneroid pressure hPa : - Rated speed rpm : 500
Rated speed rpm Pressure hPa rack travel mm	: -	Del. quantity cm3/1000 strokes : 139.0 Tolerance
Tolerance mm	: +- 0.10	cm3/1000 strokes : +- 1.0 Check tolerance
MEASUREMENT		+ cm3/1000s. : +- 4.0
Rated speed rpm	: 500	<u> </u>
Pressure hPa rack travel mm Tolerance mm	: 470 : 14.20 : +- 0.20	STARTING FUEL DELIVERY Rated speed rpm : 100
		Del. quantity
Pressure hPa rack travel mm		+ cm3/1000 strokes : 220.0 + Tolerance
Tolerance mm		cm3/1000 strokes : +- 10.0 Check tolerance
Tolerance mm Start interlock		+ cm3/1000 strokes : +- 10.0
	: + 0.05 : > 100	cm3/1000 strokes : +- 10.0 Check tolerance cm3/1000s. : +- 14.0
Start interlock Rated speed rpm	: + 0.05 : > 100	cm3/1000 strokes : +- 10.0 Check tolerance
Start interlock Rated speed rpm Rated speed rpm Check speed 1/min	: + 0.05 : > 100	cm3/1000 strokes : +- 10.0 Check tolerance cm3/1000s. : +- 14.0
Start interlock Rated speed rpm Rated speed rpm Check	: +- 0.05 : > 100 : < 220	cm3/1000 strokes : +- 10.0 Check tolerance cm3/1000s. : +- 14.0
Start interlock Rated speed rpm Rated speed rpm Check speed 1/min Check	: +- 0.05 : > 100 : < 220 : > 80 : < 240	cm3/1000 strokes : +- 10.0 Check tolerance cm3/1000s. : +- 14.0 LOW IDLE Rated speed rpm : 300 Rack travel in mm : 5.00
Start interlock Rated speed rpm Rated speed rpm Check speed 1/min Check speed 1/min	: +- 0.05 : > 100 : < 220 : > 80 : < 240	cm3/1000 strokes : +- 10.0 Check tolerance cm3/1000s. : +- 14.0 LOW IDLE Rated speed rpm : 300 Rack travel in mm : 5.00 Tolerance mm : +- 0.10 Del. quantity
Start interlock Rated speed rpm Rated speed rpm Check speed 1/min Check speed 1/min FUEL DELIVERY CHA	: +- 0.05 : > 100 : < 220 : > 80 : < 240 ARACTERISTICS	cm3/1000 strokes : +- 10.0 Check tolerance cm3/1000s. : +- 14.0 LOW IDLE Rated speed rpm : 300 Rack travel in mm : 5.00 Tolerance mm : +- 0.10 Del. quantity cm3/1000 strokes : 20.0 Tolerance cm3/1000 strokes : +- 3.0 Check tolerance
Start interlock Rated speed rpm Rated speed rpm Check speed 1/min Check speed 1/min FUEL DELIVERY CHA Aneroid pressure hPa Rated speed rpm	: +- 0.05 : > 100 : < 220 : > 80 : < 240 ARACTERISTICS : 1200	Cm3/1000 strokes : + 10.0 Check tolerance cm3/1000s. : + 14.0 LOW IDLE Rated speed rpm : 300 Rack travel in mm : 5.00 Tolerance mm : + 0.10 Del. quantity cm3/1000 strokes : 20.0 Tolerance cm3/1000 strokes : + 3.0 Check tolerance cm3/1000s. : + 6.0 Spreed
Start interlock Rated speed rpm Rated speed rpm Check speed 1/min Check speed 1/min FUEL DELIVERY CHA Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes	: +- 0.05 : > 100 : < 220 : > 80 : < 240 ARACTERISTICS : 1200 : 1000	Cm3/1000 strokes : +- 10.0 Check tolerance cm3/1000s. : +- 14.0 LOW IDLE Rated speed rpm : 300 Rack travel in mm : 5.00 Tolerance mm : +- 0.10 Del. quantity cm3/1000 strokes : 20.0 Tolerance cm3/1000 strokes : +- 3.0 Check tolerance cm3/1000s. : +- 6.0 Spreed Tolerance cm3/1000 strokes : 8.0
Start interlock Rated speed rpm Rated speed rpm Check speed 1/min Check speed 1/min FUEL DELIVERY CHA Aneroid pressure hPa Rated speed rpm Del. quantity	: +- 0.05 : > 100 : < 220 : > 80 : < 240 ARACTERISTICS : 1200 : 1000 : 244.0	cm3/1000 strokes : +- 10.0 Check tolerance cm3/1000s. : +- 14.0 LOW IDLE Rated speed rpm : 300 Rack travel in mm : 5.00 Tolerance mm : +- 0.10 Del. quantity cm3/1000 strokes : 20.0 Tolerance cm3/1000 strokes : +- 3.0 Check tolerance cm3/1000s. : +- 6.0 Spreed Tolerance

H15

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 24.06.97 : ISO 4113 Edition Test oil

Combination No. : 0 402 640 838

Injection pump

Pump designation : PE12P12OA52OLS7829

: -1

EP type number : 0 412 620 827

Governor

Governer design. : RQV300...1150PA1039

: -1K

: -1K Governer no. : 0 421 815 315

Cust. part No. : 3-7226

Customer-spec. information

Customer : MAN
Motor : D2842LE401
Power KW : 735.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C : 40
Tolerance °C : +- 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Test nozzle holde

: 1 688 901 019 assembly

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test Lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 2.5
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm : 4.55
Tolerance mm : +- 0.05 Check tolerance mm : +- 0.10

Rack travel in mm : 10.50

Tolerance mm : + 1.50

Firing order : 12-1A- 5- 9A- 8

: - 3A- 4-11A- 10 : - 2A- 6

Phasing : 0-45-60-105-120

: -165-180-225-240 : -285-300-345

Tolerance : +- 0.50

Check

tolerance °NW : +- 0.75

Start of delivery mark

Tolerance : + 0.10

Check

tolerance °NW : +- 0.75

Barrel no. : 12

BASIC SETTING

Rated speed rpm : 1150

Rack travel in mm: 13.85 Tolerance mm : +- 0.05

H17

		1
Del. quantity cm3/1000 strokes	: 305.0	Rated speed rpm : 450 guide sleeve
Tolerance cm3/1000 strokes	: +- 1.0	travel mm : 4.21 Tolerance mm : +- 0.25
Check tolerance	; TT 1.0	Rated speed rpm : 1450 guide sleeve
cm3/1000s.	: +- 4.0	travel mm : 13.50 Tolerance mm : + 0.50
Spreed		<u> </u>
Tolerance cm3/1000 strokes	: 5.0	GUIDE SLEEVE POSITION
Check tolerance cm3/1000s.	: 9.0	control lever position degree : - 1 Rated speed rpm : 1280
Rated speed rpm	: 300	Rack travel in mm: 12.80 Tolerance mm: +- 2.00
Rack travel in mm Tolerance mm		FULL LOAD DELIVERY AT FULL LOAD STOP
Del. quantity cm3/1000 strokes Tolerance	: 45.0	Rated speed rpm : 1150 Aneroid pressure
cm3/1000 strokes	: + 5.0	+ hPa : 1300 Del. quantity
(B) SETTING OF IN.	JECTION PUMP	+ cm3/1000 strokes : 305.0 + Tolerance + cm3/1000 strokes : +- 1.0
		Check tolerance : +- 4.0
GUIDE SLEEVE TRAV	EL	Spreed Tolerance
Rated speed rpm guide sleeve	: 1206	cm3/1000 strokes : 5.0 Check tolerance
travel mm Tolerance mm	: 10.42 : +- 0.25	cm3/1000s. : 9.0
Rated speed rpm guide sleeve	: 300	CONTROL LEVER
travel mm Tolerance mm	: 2.24 : +- 0.25	t control lever
Rated speed rpm guide sleeve	: 795	position degree : 120.0 tolerance degree : + 4.0
travel mm Tolerance mm	: 6.88 : +- 0.25	RATED SPEED : 12.80
Rated speed rpm	: 329	+ Rated speed rpm : 1203 + Tolerance 1/min : +- 8
guide sleeve travel mm Tolerance mm	: 2.75 : + 0.25	rack travel mm : 4.00 Rated speed rpm : 1325
Rated speed rpm	: 379	Tolerance 1/min : +- 15
guide sleeve travel mm	: 3.53	rack travel mm : 0.50 Tolerance mm : +- 0.50
Tolerance mm	: +- 0.25	+ Rated speed rpm : 1450

LOW IDLE	
control lever position degree tolerance degree	: 74.0 : +- 4.0
Setting point w/o	ut bumper spring
Rated speed rpm	: 200
CRT mm min.	: > 8.30
Testing:	
Rated speed rpm rack travel mm Tolerance mm	: 300 : 6.80 : +- 0.10
Rated speed rpm	: 33C
TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm	: 1150 : 13.85 : +- 0.05
Rated speed rpm rack travel mm Tolerance mm	
Rated speed rpm rack travel mm Tolerance mm	: 900 : 13.10 : +- 0.10
Rated speed rpm rack travel mm Tolerance mm	: 500 : 6.90 : +- 0.10
Rated speed rpm rack travel mm Tolerance mm	: 500 : 8.60 : +- 0.10
ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Rated speed rpm	: 1150 : 1300
Pressure hPa rack travel mm Tolerance mm	: 13.85 : +- 0.05

Pressure hPa rack travel mm Tolerance mm	: - : 10.00 : +- 0.10
MEASUREMENT	
Rated speed rpm	: 1150
Pressure hPa rack travel mm Tolerance mm	: 850 : 12.55 : +- 0.15
Pressure hPa rack travel mm Tolerance mm	: 400 : 10.35 : +- 0.05
Start interlock	
Rated speed rpm Rated speed rpm	: > 100 : < 240
Check speed 1/min	: > 80
Check speed 1/min	: < 260
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: 1300 : 900 : 277.0 : +- 3.0 : +- 6.0
	

H19

Arbitrary delivery for standard plunger barrel assemblies.

Aneroid pressure

hPa 500 Rated speed rpm

Del. quantity cm3/1000 strokes : 0.1

Tolerance

cm3/1000 strokes : +-0.1

Delivery for shutoff assemblies (refer to cam sequence). Arbitrary delivery for standard plunger barrel assemblies.

Aneroid pressure

hPa Rated speed rpm : 500

Del. quantity

cm3/1000 strokes : 135.0

Tolerance

cm3/1000 strokes : - 10.0

Aneroid pressure

hPa Rated speed rpm 500

Del. quantity

cm3/1000 strokes : 170.0

Tolerance

cm3/1000 strokes : +-1.0

Check tolerance

cm3/1000s. 4.0

STARTING FUEL DELIVERY

Rated speed rpm : 100

Del. quantity

cm3/1000 strokes : 110.0

Tolerance

cm3/1000 strokes : + 10.0

Check tolerance

cm3/1000s. : +- 14.0

LOW IDLE

Delivery for standard plunger/barrel assemblies.

Zero delivery for shutoff assemblies (refer to cam sequence).

Rated speed rpm :

Rack travel in mm: 6.80 Tolerance mm : +- 0.10

Del. quantity

cm3/1000 strokes : 45.0

Tolerance

cm3/1000 strokes : +- 5.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 24.06.97 : ISO 4113

Combination No. : 0 402 640 839

Injection pump

Pump designation : PE12P12OA520LS7829

: -1

EP type number : 0 412 620 827

Governor

Governer design. : RQV300...1150PA1039K

Governer no.

: 0 421 815 314

Cust. part No. : 3-7227

Customer-spec. information

Customer

: MAN

Motor

: D2842LE402

Power KW

: 809.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C

40

Tolerance °C

: +- 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5

Tolerance bar : + 0.1

Test nozzle holde

assembly

: 1 688 901 019

Opening pressure

bar

: 208.5

Tolerance bar

: +- 1.5

Test Lines : 1 680 750 075

Outside diameter :

x inside diameter :

x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm : 4.55 Tolerance mm : ÷- 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm : 10.50

Tolerance mm : +- 1.50

Firing order : 12-1A- 5- 9A- 8

: - 3A- 4-11A- 10

: - 2A- 6

Phasing : 0-45-60-105-120

: -165-130-225-240

: -285-300-345

Tolerance : +- 0.50

Check

: +- 0.75 tolerance °NW

Start of delivery blocking

Tolerance : \leftarrow 0.10

Check

tolerance °NW : +- 0.75

Barrel no. : 12

BASIC SETTING

Rated speed rpm : 1150

Rack travel in mm : 14.55

Tolerance mm : + 0.05

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Del. quantity cm3/1000 strokes : 338.0	+ Tolerance mm : +- 0.25 + Rated speed rpm : 379
Tolerance cm3/1000 strokes : + 1.0	guide sleeve + travel mm : 3.53 + Tolerance mm : +- 0.25
Check tolerance cm3/1000s. : + 4.0	Rated speed rpm : 450 guide sleeve
Spreed	travel mm : 4.21 Tolerance mm : +- 0.25
Tolerance cm3/1000 strokes : 5.0	+ Rated speed rpm : 1450 + guide sleeve
Check tolerance cm3/1000s. : 9.0	travel mm : 13.50 Tolerance mm : + 0.50
Rated speed rpm : 300	GUIDE SLEEVE POSITION
Rack travel in mm: 6.80 Tolerance mm: + 0.10 Del. quantity cm3/1000 strokes: 45.0 Tolerance cm3/1000 strokes: + 5.0	control lever position degree : - 1 Rated speed rpm : 1265 Rack travel in mm : 13.70 Tolerance mm : +- 2.00
Check tolerance cm3/1000s. : +- 8.0 Spreed Tolerance	FULL LOAD DELIVERY AT FULL LOAD STOP
cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0	Rated speed rpm : 1150 Aneroid pressure hPa : 1500 Del. quantity
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	 cm3/1000 strokes : 338.0 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance
GUIDE SLEEVE TRAVEL	- cm3/1000S. : +- 4.0 - Spreed - Tolerance
Rated speed rpm : 1206 guide sleeve	cm3/1000 strokes : 5.0 Check tolerance
travel mm : 10.43 Tolerance mm : + 0.25	+ cm3/1000s. : 9.0
Rated speed rpm : 300 guide sleeve travel mm : 2.24	CONTROL LEVER
Tolerance mm : +- 0.25	control lever position degree : 120.0
Rated speed rpm : 795 guide sleeve travel mm : 6.88	+ tolerance degree : +- 4.0 + RATED SPEED
Tolerance mm : + 0.25	rack travel mm : 13.50 Rated speed rpm : 1203
Rated speed rpm : 329 guide sleeve travel mm : 2.75	Tolerance 1/min : +- 8 rack travel mm : 4.00
travel mm : 2.75	+ rack travel mm : 4.00

Rated speed rpm : 1345 Tolerance 1/min : +- 15 rack travel mm : 0.50 Tolerance mm : +- 0.50 Rated speed rpm : 1450	Rated speed rpm : 1150 Pressure hPa : 1500 rack travel mm : 14.55 Tolerance mm : + 0.05 Rated speed rpm : 1150 Pressure hPa : - rack travel mm : 9.70 Tolerance mm : + 0.10
LOW IDLE	MEASUREMENT
control lever	Rated speed rpm : 1150
position degree : 75.0 tolerance degree : +- 4.0	Pressure hPa : 850 rack travel mm : 12.25 Tolerance mm : +- 0.15
Setting point w/out bumper spring	Pressure hPa : 400
Rated speed rpm : 200 CRT mm min. :> 8.30	rack travel mm : 10.05 Tolerance mm : + 0.05
Testing:	Start interlock
Rated speed rpm : 300 rack travel mm : 6.80 Tolerance mm : + 0.10	Rated speed rpm : > 100 Rated speed rpm : < 240
Rated speed rpm : 330	+ Check + speed 1/min :> 80 + Check
TORQUE CONTROL Rated speed rpm : 1150 rack travel mm : 14.55 Tolerance mm : +- 0.05	speed 1/min : < 260 FUEL DELIVERY CHARACTERISTICS
Rated speed rpm : 700 rack travel mm : 13.30 Tolerance mm : +- 0.10	Aneroid pressure hPa : 1500 Rated speed rpm : 700 Del. quantity
Rated speed rpm : 900 rack travel mm : 14.10	cm3/1000 strokes : 298.0
rack travel mm : 14.10 Tolerance mm : + 0.10	cm3/1000 strokes : + 3.0 Check tolerance
Rated speed rpm : 500 rack travel mm : 6.90 Tolerance mm : +- 0.10	cm3/1000s. : + 6.0 Spreed Tolerance
Rated speed rpm : 500 rack travel mm : 8.10 Tolerance mm : +- 0.10	- cm3/1000 strokes : 10.0 - Check tolerance - cm3/1000s. : 14.0
Toterance mm : +- U.10	
ANEROID/ALTITUDE COMPENSATOR TEST	+ Aneroid pressure + hPa : 1500 + Rated speed rpm : 900 - Del. quantity
SETTING	- cm3/1000 strokes : 315.0 - Tolerance - cm3/1000 strokes : +- 3.0

Check tolerance cm3/1000S.: +- 6.0

Delivery for shutoff assemblies (refer to cam sequence). Arbitrary delivery for standard plunger barrel assemblies.

Aneroid pressure

hPa Rated speed rpm 500

Del. quantity

cm3/1000 strokes : 0.1

Tolerance

cm3/1000 strokes : + 0.1

Check tolerance

cm3/1000s. 0.1

Delivery for shutoff assemblies (refer to cam sequence).

Arbitrary delivery for standard plunger barrel assemblies.

Aneroid pressure

hPa 500 Rated speed rpm Del. quantity cm3/1000 strokes : 135.0

Tolerance

cm3/1000 strokes : +- 10.0

Check tolerance

: +~ 10.0 cm3/1000s.

Aneroid pressure

hPa 500 Rated speed rpm

Del. quantity

cm3/1000 strokes : 170.0

Tolerance

cm3/1000 strokes : + 1.0

Check tolerance

cm3/1000s. : +-

Spreed

Tolerance

cm3/1000 strokes : 8.0

Check tolerance

cm3/1000s.12.0

STARTING FUEL DELIVERY

100 Rated speed rpm rack travel mm : 19.60 Tolerance mm : + 1.40

Del. quantity

cm3/1000 strokes : 95.0

Tolerance

cm3/1000 strokes : +- 10.0

Check tolerance

cm3/1000s. : +- 14.0

LOW IDLE

Delivery for standard plunger/barrel assemblies.

Zero delivery for shutoff assemblies (refer to cam sequence).

300 Rated speed rpm :

Rack travel in mm : Tolerance mm : +- 0.10 Del. quantity

cm3/1000 strokes : 45.0

Tolerance

cm3/1000 strokes : +- 5.0

Check tolerance

cm3/1000s. : +-

Spreed

Tolerance

cm3/1000 strokes : 8.0

Check tolerance

cm3/1000s. 12.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 19.06.97 Test oil : ISO 4113

Combination No. : 0 402 646 609

Injection pump

Pump designation : PE6P12OA72ORS7188

: -10

EP type number : 0 412 626 924

Governor

Governer design: : RQV200...950PA725

: -11

Governer no. : 0 421 814 033

Cust. part No. : 1340418

Customer-spec. information Customer : SCANIA : DSC 11 36 Motor

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Vibration damper

(RoBo diaphragm) : 3.1

Test oil inlet

temp. °C Tolerance °C : +- 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 2.5
Tolerance bar : + 0.1

Overflow quantity

min. l/h : 230
Tolerance l/h : + 20.0

Test nozzle holde

assembly : 1 688 901 104

Opening pressure

bar : 251.5 Tolerance bar : + 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm : 4.45 Tolerance mm : + 0.05 Check

tolerance mm : +- 0.10

Rack travel in mm : 10.50 Tolerance mm: : +- 0.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-130-240

: -300

Tolerance : +- 0.50

Check

tolerance *NW : +- 0.75

Start of delivery mark

Tolerance : \leftarrow 0.50

Check

tolerance *NW : +- 13.75

Barrel no. : 1

		†	
BASIC SETTING		FULL LOAD DELIVER	Y AT FULL LOAD STOP
Rated speed rpm	: 700	Rated speed rpm Aneroid pressure	: 700
Rack travel in mm Tolerance mm	: 13.85 : +- 0.05	hPa Del. quantity cm3/1000 strokes	: - : 252.0
Del. quantity		Tolerance cm3/1000 strokes	
cm3/1000 strokes Tolerance	: 252.0	Check tolerance cm3/1000s. Spreed	: 4.0
cm3/1000 strokes	: +- 1.0	Tolerance cm3/1000 strokes	: 8.0
Check tolerance cm3/1000s.	: +- 4.0	Check tolerance cm3/1000s.	: 12.0
Spreed			
Tolerance cm3/1000 strokes	: 8.0	CONTROL LEVER	
		+ control lever	40.0
Check tolerance cm3/1000s.	: 12.0	<pre>position degree tolerance degree</pre>	
		+ control lever	
Rated speed rpm	: 250	position degree tolerance degree	
Rack travel in mm	: 4.70	RATED SPEED	
Tolerance mm	: + 0.10	+ rack travel mm	: 12.80
Del. quantity		+ Rated speed rpm	: 995
cm3/1000 strokes	: 17.0	+ Tolerance 1/min	: +- 5
Tolerance		+ Check	
cm3/1000 strokes	: +- 3.0	+ speed 1/min	: +- 10
Check tolerance		+	
cm3/1000s.	: +- 6.0	+ rack travel mm	: 4.00
Spreed		+ Rated speed rpm	
Tolerance	: 4.0	+ Tolerance 1/min	: +- 15
cm3/1000 strokes Check tolerance	: 4.0	+ Check + speed 1/min	: +- 20
cm3/1000s.	: 8.0	I speed milit	. + 20
دراات الحاات	. 0.0	rack travel mm	: 0.50
		+ Tolerance mm	: + 0.50
(B) SETTING OF IN. WITH GOVERNOR	JECTION PUMP	Rated speed rpm	
		+	
GUIDE SLEEVE POSI	TION	+ FOM IDEE	
control lever	•	control lever	41.5
position degree Rated speed rpm	: - 1 : 1150	+ position degree + tolerance degree	
Rack travel in mm Tolerance mm		control lever position degree	: 10.0
ioterance im	2.50	position degree	. 10.0

H26

tolerance degree	: +- 4.0	+ Aneroid pressure
Setting point w/o	out bumper spring	+ hPa : - + Rated speed rpm : 950
Rated speed rpm	: 150	+ Del. quantity + cm3/1000 strokes : 237.0
CRT mm min.	: > 6.00	+ Tolerance - cm3/1000 strokes : +- 4.0
Testing:		+ Check tolerance + cm3/1000S. : +- 6.0
Rated speed rpm rack travel mm	: 250	‡ ————————————————————————————————————
rack travel mm Tolerance mm	: 4.70	+ Aneroid pressure
Tolerance mm	: +- 0.10	† 'nPa : -
Rated speed rpm	• 270	Rated speed rpm : 500 Del. quantity
Mateu speed i piii	. 270	cm3/1000 strokes : 115.0
		- Tolerance
TORQUE CONTROL		+ cm3/1000 strokes : +- 1.0
Rated speed rpm	: 700	+ Check tolerance
rack travel mm	: +- 0.05	+ cm3/1000s. : +- 4.0
Tolerance mm	; += 0.03	Ī
Rated speed rpm	: 950	
Rated speed rpm rack travel mm Tolerance mm	: 13.85	STARTING FUEL DELIVERY
Tolerance mm	: +- 0.05	+
		Rated speed rpm : 100
ANEROTO / AL TITUDE		- + rack travel mm : 9.30 + Tolerance mm : +- 0.20
ANEROID/ALTITUDE COMPENSATOR TEST		+ Del. quantity
JOHN TON TEST		cm3/1000 strokes : 125.0
		+ Tolerance
SETTING		+ cm3/1000 strokes : +- 20.0
		† Check tolerance
Rated speed rpm	: 500	+ cm3/1000s. : +- 24.0
Pressure hPa	: 1500 : 13.85	†
rack travel mm Tolerance mm	: + 0.05	<u></u>
loter diffe likil	0.05	
Rated speed rpm	: 500	LOW IDLE
Pressure hPa	: -	+
rack travel mm Tolerance mm	: 9.30	Rated speed rpm : 250
Tolerance mm	: +- 0.20	Park travel in the 4 70
MEASUREMENT		Rack travel in mm: 4.70 Tolerance mm: +- 0.10
MENSOREHLINI		Del. quantity
Rated speed rpm	: 500	- cm3/1000 strokes : 17.0
		+ Tolerance
Pressure hPa		cm3/1000 strokes : +- 3.0
rack travel mm	: 12.05	Check tolerance
Tolerance mm	; + U.U2	cm3/1000S. : +- 6.0 Spreed
Pressure hPa	: 185	+ Tolerance
rack travel mm	: 11.00	cm3/1000 strokes : 4.0
rack travel mm Tolerance mm	: +- 0.15	↓ Check tolerance
		cm3/1000s. : 8.0
		†
EUC DEL TUEDV CHI	ADACTEDICTICS	- †
FUEL DELIVERY CHA	AUMO (EKTO) 100	I

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 19.06.97 Test oil : ISO 4113

Combination No. : 0 402 646 613

Injection pump

Pump designation : PE6P12OA32ORS7248

: -10W

EP type number : 0 412 626 908

Governor

Governer design. : RQ275/1150PA987 Governer no. : 0 421 801 578

Cust. part No. : 1278684/3

Customer-spec. information

Customer : DAF

Motor : RS 180 M Power KW : 180.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C : 40 Tolerance °C : + 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 5.25 Tolerance mm : + 0.05

Check

tolerance mm : + 0.10

Rack travel in mm : 20.00 Tolerance mm : +- 0.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : +-0.50

Check

tolerance °NW : + 0.75

Start of delivery mark

Tolerance : +- 0.50

Check

tolerance "NW : +- 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm : 10.75 Tolerance mm : + 0.05

	+ Tolerance mm : +- 0.10
Del. quantity cm3/1000 strokes : 154.0	Rated speed rpm : 440
T. 1	+ guide sleeve
Tolerance cm3/1000 strokes : +- 1.0	travel mm : 6.00 Tolerance mm : + 0.10
Check tolerance cm3/1000s. : +- 4.0	Rated speed rpm : 1360 guide sleeve
Spreed	+ travel mm : 11.50 + Tolerance mm : + 0.50
	+
Tolerance cm3/1000 strokes : 5.0	GUIDE SLEEVE FOSITION
Check tolerance	1
cm3/1000s. : 9.0	control lever position degree : - 1 Rated speed rpm : 550
	+
	+ Rack travel in mm : 15.80
Rack travel in mm : 4.90 Tolerance mm : + 0.10	Tolerance mm : + 0.60
Del. quantity cm3/1000 strokes : 16.0 Tolerance	FULL LOAD DELIVERY AT FULL LOAD STOP
cm3/1000 strokes : +- 3.0	Aneroid pressure
Check tolerance	+ hPa : -
cm3/1000s. : +- 6.0	+ Del. quantity
Spreed	+ cm3/1000 strokes : 154.0
Tolerance	+ Tolerance
cm3/1000 strokes : 8.0	+ cm3/1000 strokes : +- 1.0
Check tolerance	+ Check tolerance
cm3/1000s. : 12.0	+ cm3/1000s. + 4.0
	+ Spreed
(D) CETTING OF THE FOTTON DUMP	Tolerance
(B) SETTING OF INJECTION PUMP	+ cm3/1000 strokes : 5.0 + Check tolerance
WITH GOVERNOR	+ cm3/1000s. : 9.0
	I (11137 10003). 9.0
GUIDE SLEEVE TRAVEL	
Rated speed rpm : 1205 guide sleeve	CONTROL LEVER
travel mm : 6.51	+ control lever
Tolerance mm : + 0.10	position degree : 99.0
Rated speed rpm : 275	tolerance degree : +- 4.0
guide steeve	+ RATED SPEED
travel mm : 1.95	+ rack travel mm : 9.75
Tolerance mm : +- 0.10	Rated speed rpm : 1192
Rated speed rpm : 1150	Tolerance 1/min : + 8
guide sleeve travel mm : 6.00	+ rack travel mm : 4.00 + Rated speed rpm : 1265
Tolerance mm : + 0.10	+ Tolerance 1/min : + 15
reservative time	Total and Training 19
Rated speed rpm : 351	rack travel mm : 0.70
guide sleeve	+ Tolerance mm : + 0.70
travel mm : 4.27	Rated speed rpm : 1450

LOW IDLE

control lever

position degree : 74.0 tolerance degree : +-4.0

Setting point w/out bumper spring

175 Rated speed rpm :

CRT mm min. : > 7.60

Testina:

Rated speed rpm 275 4.90 rack travel mm Tolerance mm : +- 0.10

2.00 rack travel mm Rated speed rpm Tolerance 1/min 20 : +-

TORQUE CONTROL

1000 Rated speed rpm rack travel mm 10.75 Tolerance mm : +- 0.05

Rated speed rpm : 1150 10.75 rack travel mm : +- 0.10 Tolerance mm

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm 600 : 1000 Pressure hPa 10.75 rack travel mm Tolerance mm : +- 0.05

Rated speed rpm 600 Pressure hPa 9.50 rack travel mm : + 0.10Tolerance mm

MEASUREMENT

600 Rated speed rpm

300 Pressure hPa rack travel mm : 10.45

: +- 0.05 Tolerance mm

Pressure hPa 240 10.00 rack travel mm : + 0.10Tolerance mm

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa Del. quantity

cm3/1000 strokes : 122.5

Tolerance cm3/1000 strokes : +-1.0

Check tolerance

cm3/1000s. : +-4.0

LOW IDLE

4.90 Rack travel in mm : Tolerance mm : +-0.10 Del. quantity cm3/1000 strokes : 16.0 Tolerance cm3/1000 strokes : +- 3.0Check tolerance cm3/1000s. : +-6.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s.

End of test specification sheet

12.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 19.06.97 Test oil : ISO 4113

Combination No. : 0 402 646 614

Injection pump

Pump designation : PE6P120A320RS7248

: -10W

EP type number : 0 412 626 908

Governor

Governer design. : RQV275...1150PA986

Governer no. : 0 421 813 920

Cust. part No. : 1280139/3

Customer-spec. information

Customer : DAF
Motor : RS 180 M
Power KW : 180.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C : 40 Tolerance °C : + 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Overflow quantity

min. L/h : 130 Tolerance L/h : + 10.0

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar : 208.5 Tolerance bar : + 1.5 Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter: 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure par : 26.0 Tolerance par : +- 1.0

Prestroke mm : 5.25 Tolerance mm : + 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm : 20.00 Tolerance mm : + 0.50

Firing order : 1-5-3-6-2-

: 4

Phasing : G-60-120-180-240

: -300

Tolerance : \leftarrow 0.50

Check

tolerance *NW : +- 0.75

Start of delivery mark

Tolerance : +- 0.50

Check

tolerance °NW : +- 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1000

Rack travel in m	n · 10 75	+ Rated speed rpm : 315
Tolerance mm		
TOTAL MILLS	0.03	travel mm : 1.98
Del. quantity		+ Tolerance mm : + 0.25
cm3/1000 strokes	: 154.0	+
		+ Rated speed rpm : 365
Tolerance		+ guide sleeve
cm3/1000 strokes	: +- 1.0	travel mm : 2.52
Chast Aslanaus		+ Tolerance mm : +- 0.25
Check tolerance cm3/1000s.	: +- 4.0	T + Rated speed rpm : 450
(10000)	4.0	+ guide sleeve
Spreed		+ travel mm : 3.07
•		+ Tolerance mm : +- 0.25
Tolerance		+
cm3/1000 strokes	: 5.0	+ Rated speed rpm : 1500
Charl delanes		+ guide sleeve + travel mm : 11.50
Check talerance cm3/1000S.	: 9.0	+ travel mm : 11.50 + Tolerance mm : +- 0.50
	. /.0	Total affice mail . T 0.30
		GUIDE SLEEVE POSITION
Rated speed rpm	: 275	+
Cook Annual du ma	/ 00	†
Rack travel in mr Tolerance mm		<pre>+ control lever + position degree : - 1</pre>
Del. quantity	. +- 0.10	Rated speed rpm : 1350
cm3/1000 strokes	: 16.0	- Nated Speed (pin : 1990
Tolerance		Rack travel in mm: 9.70
cm3/1000 strokes		+ Tolerance mm : +- 1.30
Check tolerance		+
cm3/1000s.	: +- 6.0	FULL LOAD DELTAGEN AT THE LOAD OFFI
Spreed Tolerance		+ FULL LOAD DELIVERY AT FULL LOAD STOP
cm3/1000 strokes	. 80	Rated speed rpm : 1000
Check tolerance	. 0.0	Aneroid pressure
cm3/1000S.	: 12.0	+ hPa : -
		Del. quantity
		† cm3/1000 strokes : 154.0
(B) SETTING OF IN	NJECTION PUMP	+ Tolerance
WITH GOVERNOR		+ cm3/1000 strokes : +- 1.0
		+ Check tolerance + cm3/1000s. : +- 4.0
GUIDE SLEEVE TRAN	VFI	- Spreed
020272 7777		+ Tolerance
Rated speed rpm	: 1206	+ cm3/1000 strokes : 5.0
guide sleeve		- Check tolerance
travel mm	: 8.24	+ cm3/1000s. : 9.0
Tolerance mm	: +- 0.25	†
Rated speed rpm	: 275	Ī
guide sleeve	. 213	CONTROL LEVER
travel mm	: 1.44	+
Tolerance mm	: ← 0.25	control lever
		position degree : 118.0
Rated speed rpm	: 799	tolerance degree : +- 4.0
		+
guide sleeve	. 5 21	DATED COEED
guide sleeve travel mm Tolerance mm	: 5.21 : + 0.25	RATED SPEED rack travel mm : 9.75

Rated speed rpm : 1192
Tolerance 1/min : +- 5

rack travel mm : 4.00 Rated speed rpm : 1290 Tolerance 1/min : +- 15

rack travel mm : 0.70 Tolerance mm : + 0.70 Rated speed rpm : 1450

LOW IDLE

control lever

position degree : 82.0 tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 175

CRT mm min. :> 7.40

Testing:

Rated speed rpm : 275 rack travel mm : 4.90 rack travel mm : Tolerance mm : +- 0.10

Rated speed rpm : 340

TORQUE CONTROL

Rated speed rpm : 1000 rack travel mm : 10.75 Tolerance mm : \leftarrow 0.05

Rated speed rpm : 1150 rack travel mm : 10.75 Tolerance mm : + 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 600 Pressure hPa : 1000 rack travel mm : 10.75 Tolerance mm : +- 0.05

Rated speed rpm : 600 Pressure hPa : 300 rack travel mm : 10.45 Tolerance mm : +- 0.05

MEASUREMENT

Rated speed rpm : 600

Pressure hPa rack travel mm : 9.50 Tolerance mm : +- 0.10

Pressure hPa : 240 rack travel mm : 10.00 Tolerance mm : +- 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa Rated speed rpm : 600

Del. quantity

cm3/1000 strokes : 122.5

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance

cm3/1000s. : +- 4.0

LOW IDLE

Rated speed rpm : 275

Rack travel in mm : 4.90 Tolerance mm : +- 0.10 Del. quantity cm3/1000 strokes : 16.0 Tolerance cm3/1000 strokes : +- 3.0Check tolerance

cm3/1000s. : +- 6.0 Spreed

Tolerance

cm3/1000 strokes : 8.0 Check tolerance

cm3/1000s.

: 12.0

End of test specification sheet

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Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 19.06.97 Test oil : ISO 4113

Combination No. : 0 402 646 619

Injection pump

Pump designation : PE6P12OA72ORS7188

: -100

EP type number : 0 412 626 925

Governor

Governer design. : RQV200...950PA725

: -11

Governer no. : 0 421 814 033

Cust. part No. : 1340417

Customer—spec. information
Customer : SCANIA

Motor : DSC 11 35

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Vibration

damper

(RoBo diaphragm) : 3.1

Test oil inlet

temp. *C : 40 Tolerance *C : + 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 2.5
Tolerance bar : + 0.1

Tolerance l/h: \leftarrow 10.0

Test nozzle holde

assembly : 1 688 901 104

Opening pressure

bar : 251.5 Tolerance bar : + 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 4.45 Tolerance mm : + 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm : 10.50 Tolerance mm : + 0.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : +- 0.50

Check

tolerance *NW : +- 0.75

Start of delivery mark

Tolerance : \leftarrow 0.50

Check

tolerance *NW : +- 0.75

Barrel no. : 1

BASIC SETTING

	+	Rated speed rpm : 1250
Rated speed rpm :	250	Traced Speed Tpill . Test
Rack travel in mm : Tolerance mm :		
Del. quantity cm3/1000 strokes :	17.0	LOW IDLE
Tolerance cm3/1000 strokes :	+ 3.0	control lever
Check tolerance cm3/1000s. : Spreed	+- 6.0	position degree : 64.0 tolerance degree : +- 4.0
Tolerance cm3/1000 strokes :	4.0	control lever position degree : 10.0
Check tolerance cm3/1000s. :	+	tolerance degree : +- 4.0
	‡	Setting point w/out bumper spring
(9) SETTING OF INJE WITH GOVERNOR	ECTION PUMP +	Rated speed rpm : 150
	†	CRT mm min. : > 6.00
GUIDE SLEEVE POSITI	ON	Testing:
control lever	‡ ‡	Rated speed rpm : 250 rack travel mm : 4.70 Tolerance mm : +- 0.10
position degree : Rated speed rpm :	- 1 1150	Rated speed rpm : 250
Rack travel in mm : Tolerance mm :		TORQUE CONTROL
	+	Rated speed rpm : 950 rack travel mm : 12.75
CONTROL LEVER	<u> </u>	rack travel mm : 12.75 Tolerance mm : +- 0.05
control lever position degree : tolerance degree :		ANEROID/ALTITUDE COMPENSATOR TEST
control lever position degree : tolerance degree :		SETTING
RATED SPEED rack travel mm : Rated speed rpm : Tolerance 1/min :	11.70 995	Rated speed rpm : 500 Pressure hPa : 1500 rack travel mm : 12.75 Tolerance mm : + 0.05
Check	+ 10	Rated speed rpm : 500 Pressure hPa : -
rack travel mm : Rated speed rpm :	4.00	rack travel mm : 9.30 Tolerance mm : + 0.20
Tolerance 1/min : Check	+ 15	MEASUREMENT
speed 1/min :	→ 20	Rated speed rpm : 500
rack travel mm : Tolerance mm :	0.50 +- 0.50	Pressure hPa : 185 rack travel mm : 11.00
· · ·		

: +- 0.15 Tolerance mm : 375 Pressure hPa 12.05 rack travel mm : : +- 0.05 Tolerance mm FUEL DELIVERY CHARACTERISTICS Aneroid pressure 1500 hPa Rated speed rpm 950 Del. quantity cm3/1000 strokes : 209.0 Tolerance cm3/1000 strokes : +- 4.0Check tolerance cm3/1000s.: +- 6.0 Aneroid pressure hPa 500 Rated speed rpm : Del. quantity cm3/1000 strokes : 115.0 Tolerance cm3/1000 strokes : +- 1.0Check tolerance cm3/1000s. : +--4.0 STARTING FUEL DELIVERY 100 Rated speed rpm : rack travel mm : 9.30 : +- 0.20 Tolerance mm Del. quantity cm3/1000 strokes : 125.0 Tolerance cm3/1000 strokes : +- 20.0

Rated speed rpm : 100
rack travel mm : 9.30
Tolerance mm : + 0.20
Del. quantity
cm3/1000 strokes : 125.0
Tolerance
cm3/1000 strokes : + 20.0
Check tolerance
cm3/1000s. : + 24.0

LOW IDLE

Rated speed rpm : 250

Rack travel in mm : 4.70

Tolerance mm : \leftarrow 0.10

cm3/1000 strokes : 17.0

cm3/1000 strokes : \leftarrow 3.0

Check tolerance cm3/1000s. : +- 6.0 Spreed Tolerance cm3/1000 strokes : 4.0 Check tolerance cm3/1000s. : 8.0

End of test specification sheet

Del. quantity

Tolerance

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 24.06.97 Test oil : ISO 4113

Combination No. : 0 402 646 624

Injection pump

Pump designation : PE6P12OA32ORS7299 EP type number : 0 412 626 885

Governor

Governer design. : RQV275...1000PA1075K

Governer no. : 0 421 815 356

Cust. part No. : 1280155

Customer-spec. information Customer : DAF Motor : WS 295 M

Power KW : 295.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C : 40
Tolerance °C : +- 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter: 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm : 4.85
Tolerance mm : +- 0.05
Check

uneck

tolerance mm : +- 0.10

Rack travel in mm : 10.50
Tolerance mm : +- 0.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : \leftarrow 0.50

Check

tolerance °NW : +- 0.75

Start of delivery mark

Tolerance : +- 0.50

Check

tolerance °NW : +- 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 980

Rack travel in mm : 14.35

Tolerance mm : + 0.05

J10

Del. quantity cm3/1000 strokes :	279.0	Tolerance mm	: +- 0.25
Tolerance		Rated speed rpm guide sleeve	
cm3/1000 strokes : +	- 1.0	travel mm Tolerance mm	: 3.17 : + 0.25
Check tolerance cm3/1000s. : +	- 4.0	Rated speed rpm	: 390
Spreed	<u>_</u>	guide sleeve travel mm Tolerance mm	: 3.79 : +- 0.25
Tolerance cm3/1000 strokes :	5.0	Pated speed rpm	
Check tolerance cm3/1000S. :	9.0	guide sleeve travel mm Tolerance mm	: 13.50 : +- 0.50
	<u> </u>	GUIDE SLEEVE POSI	TION
Rated speed rpm :	275		
Rack travel in mm :		control lever	
Tolerance mm : +	- 0.10	position degree Rated speed rpm	: - 1
Del. quantity	17.0	Rated speed rpm	: 1135
cm3/1000 strokes :	17.0	Dool Americal America	. 17 (0
Tolerance cm3/1000 strokes : +	_ 30 1	Rack travel in mm Tolerance mm	
Check tolerance	- 3.0 I	rocerance nm	. += 1.50
cm3/1000S. : +	- 6.0		
Spreed	+	FULL LOAD DELIVER	Y AT FULL LOAD STOP
Tolerance	+		
cm3/1000 strokes :	8.0	Rated speed rpm	: 980
Check tolerance	+	Aneroid pressure	
cm3/1000s. :	12.0	hPa	: -
	†	Del. quantity	. 270 0
(B) SETTING OF INJECT	TON DUMP	cm3/1000 strokes Tolerance	: 2/9.0
WITH GOVERNOR	TOW PUMP	cm3/1000 strokes	· +- 1 0
WITH GOVENNOR	\perp	Check tolerance	
		cm3/1000s.	: +- 4.0
GUIDE SLEEVE TRAVEL	+	Spreed	
	+	Tolerance	
Rated speed rpm :	1046	cm3/1000 strokes	
guide sleeve travel mm : Tolerance mm : +	0.07	Check tolerance	: 9.0
Tolorose mm : +	- 0.20 - 0.20	cm3/1000s.	: 9.0
TO CETAILCE IIII : +	T +		
Rated speed rpm :	275 🗼		
guide sleeve	+	CONTROL LEVER	
travel mm :	2.14 +		
Tolerance mm : +	- U.15 †	control lever	. 424.0
Dated around ro-	490	position degree tolerance degree	: 121.U • + /. O
Rated speed rpm : guide sleeve	1	coterance degree	, T 4.U
travel mm :	6.43	RATED SPEED	
guide steeve travel mm : Tolerance mm : +	- 0.25	rack travel mm	: 13.45
recommended to the second	-	rack travel mm Rated speed rpm	: 1032
Rated speed rpm :	284 🗼	Tolerance 1/min	: +- 5
guide sleeve	+		
travel mm :	2.27	rack travel mm	: 4.00

: 0.70 : +- 0.70 : 1275
: 74.0 : +- 4.0
ut bumper spring
: 175
: > 7.80
: 275 : 4.80 : + 0.10
: 275
: 980 : 14.35 : + 0.05
: 750 : 13.70 + 0.05
: 600 : 12.80 : + 0.10
: 500 : 12.50 : + 0.10
: 980 : 14.50 : + 0.10

Rated speed rpm	: 980
Pressure hPa	: 1500
rack travel mm	: 14.35
Tolerance mm	: +- 0.05
Rated speed rpm	: 980
Pressure hPa	: -
rack travel mm	: 8.90
Tolerance mm	: +- 0.10
MEASUREMENT	
Rated speed rpm	: 980
Pressure hPa	: 840
rack travel mm	: 13.25
Tolerance mm	: +- 0.05
Pressure hPa	: 430
rack travel mm	: 10.40
Tolerance mm	: +- 0.10
FILET DELTVERY CHA	NPACTERISTICS

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure		
hPa	: -	
Rated speed rpm Del. quantity	: 750	
cm3/1000 strokes	: 284.0	
Tolerance		
cm3/1000 strokes	: +- 2.0	
Check tolerance		
cm3/1000s.	: +- 5.0	
Spreed Tolerance		
cm3/1000 strokes	: 8.0	
Check tolerance		
cm3/1000s.	: 12.0	
Aneroid pressure		
hPa	: -	
Rated speed rpm	: 600	
Del. quantity	470.0	
cm3/1000 strokes Tolerance	: 172.0	
cm3/1000 strokes	: +- 1.0	
Check tolerance		
cm3/1000s.	: +- 4.0	

LOW IDLE

Rated speed rpm	:		275	
Rack travel in mm Tolerance mm	:	+	4.80 0.10	
Del. quantity cm3/1000 strokes Tolerance	:		17.0	
cm3/1000 strokes Check tolerance	•	+	3.0	
cm3/1000s. Spreed	:	+-	6.0	
Tolerance cm3/1000 strokes Check tolerance	:		8.0	
cm3/1000s.	:		12.0	

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 24.06.97 Test oil : ISO 4113

Combination No. : 0 402 646 630

Injection pump

Pump designation : PE6P12OA72ORS7302

: -10

EP type number : 0 412 626 928

Governor

Governer design. : RQ200/950PA745-6 Governer no. : 0 421 801 702

Cust. part No. : 1354204

Customer-spec. information Customer : SCANIA Motor : DS 11 78

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Vibration

damper

(RoBo diaphragm) : 3.1

Test oil inlet

temp. °C : 40 Tolerance °C : +- 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 2.5 Tolerance bar : +- 0.1

Test nozzle holde

assembly : 1 688 901 104

Opening pressure

bar : 251.5 Tolerance bar : + 1.5 Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm : 4.45 Tolerance mm : +- 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm : 13.00 Tolerance mm : +- 0.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : \leftarrow 0.30

Check

tolerance $^{\circ}NW$: \leftarrow 0.75

Start of delivery mark

Tolerance : \leftarrow 0.30

Check

tolerance °NW : +- 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 700	+ guide sleeve + travel mm : 4.50 + Tolerance mm : +- 0.10
Rack travel in mm : 13.35 Tolerance mm : +- 0.05	Rated speed rpm : 350 guide sleeve travel mm : 2.88
Del. quantity cm3/1000 strokes : 171.0	Tolerance mm : +- 0.10
Tolerance cm3/1000 strokes : + 1.0	Rated speed rpm : 520 guide sleeve travel mm : 4.50
Check tolerance cm3/1000s. : + 4.0	Tolerance mm : +- 0.10 Rated speed rpm : 1045
Spreed	<pre>+ guide sleeve + travel mm : 5.50 + Tolerance mm : +- 0.10</pre>
Tolerance cm3/1000 strokes : 8.0	Rated speed rpm : 1360 guide sleeve
Check tolerance cm3/1000s. : 12.0	travel mm : 11.50 Tolerance mm : + 0.50
Rated speed rpm : 250	GUIDE SLEEVE POSITION
Rack travel in mm: 4.50 Tolerance mm: : - 0.10	control lever position degree : 104
Del. quantity cm3/1000 strokes : 16.0	Rated speed rpm : 600
Tolerance cm3/1000 strokes : +- 3.0 Check tolerance	Rack travel in mm: 16.50 Tolerance mm: + 1.30
cm3/1000s. : +- 6.0 Spreed Tolerance	FULL LOAD DELIVERY AT FULL LOAD STOP
cm3/1000 strokes : 4.0 Check tolerance cm3/1000s. : 8.0	Rated speed rpm : 700 Aneroid pressure hPa : -
(B) SETTING OF INJECTION PUMP	Del. quantity - cm3/1000 strokes : 171.0 - Tolerance
WITH GOVERNOR	cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0
GUIDE SLEEVE TRAVEL	Spreed Tolerance
Rated speed rpm : 1005 guide sleeve travel mm : 4.88	cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0
Tolerance mm : +- 0.15 Rated speed rpm : 250	
guide sleeve travel mm : 1.41 Tolerance mm : +- 0.20	+ CONTROL LEVER + control lever
Rated speed rpm : 930	<pre>position degree : 45.0 tolerance degree : + 4.0</pre>

control lever	† Tolerance mm : + 0.10
position degree : 99.0 tolerance degree : +- 4.0	ANEROID/ALTITUDE COMPENSATOR TEST
RATED SPEED rack travel mm : 12.30 Rated speed rpm : 995 Tolerance 1/min : + 5 Check speed 1/min : + 10	SETTING Rated speed rpm : 500
rack travel mm : 4.00 Rated speed rpm : 1125	Pressure hPa : 1500 rack travel mm : 13.35 Tolerance mm : + 0.05
Tolerance 1/min : +- 15 Check speed 1/min : +- 20	Rated speed rpm : 500 Pressure hPa : - rack travel mm : 11.20 Tolerance mm : + 0.20
rack travel mm : 0.50 Tolerance mm : +- 0.50 Rated speed rpm : 1250	MEASUREMENT Rated speed rpm : 500
LOW IDLE	Pressure hPa : 21û rack travel mm : 11.90 Tolerance mm : + 0.15
contro! lever position degree : 64.0	Pressure hPa : 400 rack travel mm : 13.05 Tolerance mm : + 0.05
tolerance degree : +- 4.0	<u> </u>
	FUEL DELIVERY CHARACTERISTICS
tolerance degree : +- 4.0 control lever position degree : 10.0 tolerance degree : +- 4.0 Setting point w/out bumper spring	FUEL DELIVERY CHARACTERISTICS Aneroid pressure hPa : -
tolerance degree : +- 4.0 control lever position degree : 10.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 150	FUEL DELIVERY CHARACTERISTICS Aneroid pressure hPa : - Rated speed rpm : 950 Del. quantity
tolerance degree : +- 4.0 control lever position degree : 10.0 tolerance degree : +- 4.0 Setting point w/out bumper spring	FUEL DELIVERY CHARACTERISTICS Aneroid pressure hPa : - Rated speed rpm : 950
tolerance degree : +- 4.0 control lever position degree : 10.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 150 CRT mm min. : > 5.80	FUEL DELIVERY CHARACTERISTICS Aneroid pressure hPa : - Rated speed rpm : 950 Del. quantity cm3/1000 strokes : 172.0 Tolerance cm3/1000 strokes : +- 4.0 Check tolerance cm3/1000s. : +- 6.0
tolerance degree : +- 4.0 control lever position degree : 10.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 150 CRT mm min. : > 5.80 Testing: Rated speed rpm : 250 rack travel mm : 4.50	FUEL DELIVERY CHARACTERISTICS Aneroid pressure hPa : - Rated speed rpm : 950 Del. quantity cm3/1000 strokes : 172.0 Tolerance cm3/1000 strokes : +- 4.0 Check tolerance cm3/1000s. : +- 6.0 Aneroid pressure hPa : - Rated speed rpm : 500 Del. quantity cm3/1000 strokes : 122.0
tolerance degree : +- 4.0 control lever position degree : 10.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 150 CRT mm min. :> 5.80 Testing: Rated speed rpm : 250 rack travel mm : 4.50 Tolerance mm : +- 0.10 rack travel mm : 2.00 Rated speed rpm : 335	FUEL DELIVERY CHARACTERISTICS Aneroid pressure hPa : - Rated speed rpm : 950 Del. quantity cm3/1000 strokes : 172.0 Tolerance cm3/1000 strokes : +- 4.0 Check tolerance cm3/1000s. : +- 6.0 Aneroid pressure hPa : - Rated speed rpm : 500 Del. quantity

Rated speed rpm : 100
rack travel mm : 20.50
Tolerance mm : + 0.50
Del. quantity
cm3/1000 strokes : 275.0
Tolerance
cm3/1000 strokes : + 20.0
Check tolerance
cm3/1000s. : + 24.0

LOW IDLE

250 Rated speed rpm : Rack travel in mm : 4.50 Tolerance mm : + 0.10 Del. quantity cm3/1000 strokes : 16.0 Tolerance cm3/1000 strokes : +- 3.0 Check tolerance cm3/1000s. : +- 6.0 Spreed Tolerance cm3/1000 strokes : 4.0 Check tolerance 8.0 cm3/1000s.

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 19.06.97 : ISO 4113

Combination No. : 0 402 646 660

Injection pump

Pump designation : PE6P120A320RS7248

: -10v

EP type number : 0 412 626 946

Governor

Governer design. : RQV275...1150PA986

Governer no. : 0 421 813 920

Cust. part No. : 1300727/1

Customer-spec. information

Customer : DAF

Motor

: RT 170 L

Power KW : 170.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C

Tolerance °C

Overflow valve : 1 417 413 000

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Overflow quantity

min. l/h : 75 Tolerance l/h : +- 10.0

Test nozzle holde

assembly

: 1 688 901 105

Opening pressure bar : 208.5 Tolerance bar : + 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter: 3.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0

Tolerance bar : +- 1.0

Prestroke mm : 5.25 Tolerance mm : +- 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm : 20.00

Tolerance mm : + 0.50

Firing order : 1-5- 3- 6- 2-

: 4

: 0-60-120-180-240 Phasing

: -300

Tolerance : +- 0.50

Check

tolerance *NW : +- 0.75

Start of delivery mark

Tolerance : +- 0.50

Check

tolerance *NW : +- 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1000

J18

		+ Tolerance mm : +- 0.25
Rack travel in mm	. 10.60	+ Rated speed rpm : 309
Tolerance mm		guide sleeve
TO COT GITTO THE		+ travel mm : 1.89
Del. quantity		+ Tolerance mm : +- 0.25
cm3/1000 strokes	: 146.0	-
		Rated speed rpm : 359
Tolerance		+ guide sleeve
cm3/1000 strokes	: +- 1.0	+ travel mm : 2.41
		+ Tolerance mm : +- 0.25
Check tolerance		+
cr:3/1000S.	: ~ 4.0	+ Rated speed rpm : 450
		+ guide sleeve
Spreed		travel mm : 2.99
		+ Tolerance mm : + 0.25
Tolerance		+
cm3/1000 strokes	: 5.0	+ Rated speed rpm : 1500
		† guide sleeve
Check tolerance		+ travel mm : 11.50
cm3/1000S.	: 9.0	+ Tolerance mm : +- 0.50
		†
		OUTDE OF SECTION
On A colonia and the	275	GUIDE SLEEVE POSITION
Rated speed rpm	: 2/5	†
Deal Assumbly me	/ 70	†
Rack travel in mm		+ control lever
Tolerance mm	: +- 0.10	+ position degree : - 1
Del. quantity	. 47.0	Rated speed rpm : 1350
cm3/1000 strokes	: 17.0	+ Rack travel in mm : 9.60
Tolerance	7.0	+ Tolerance mm : +- 1.30
cm3/1000 strokes	: +- 3.0	+ Toterance mm : +- 1.50
Check tolerance cm3/1000s.	: +- 6.0	T
Spreed	: +- 0.0	FULL LOAD DELIVERY AT FULL LOAD STOP
Tolerance		I FOLL LOAD DELIVERY AT TOLL LOAD STOP
cm3/1000 strokes	. 80	Rated speed rpm : 1000
Check tolerance	. 0.0	Aneroid pressure
cm3/1000S.	: 12.0	+ hPa : 1000
1.1.37 100001		+ Del. quantity
		+ cm3/1000 strokes : 146.0
(B) SETTING OF IN.	JECTION PUMP	+ Tolerance
WITH GOVERNOR		+ cm3/1000 strokes : + 1.0
		+ Check tolerance
		+ cm3/1000s. : +- 4.0
GUIDE SLEEVE TRAVE	EL	Spreed
· · · · · · · · · · · · · · · · · · ·		+ Tolerance
Rated speed rpm	: 1210	+ cm3/1000 strokes : 5.0
guide sleeve		- Check tolerance
travel mm	: 8.26	+ cm3/1000s. : 9.0
Tolerance mm	: +- 0.15	+
		+
Rated speed rpm	: 275	
guide sleeve		+ CONTROL LEVER
travel mm	: 1.44	+
Tolerance mm	: +- 0.20	+ control lever
		+ position degree : 118.0
Rated speed rpm	: 805	+ tolerance degree : +- 4.0
guide sleeve		†
travel mm	: 5.21	+ RATED SPEED

rack travel mm : 9.60 Rated speed rpm : 1200 Tolerance 1/min : +- 5 rack travel mm : 4.00 Rated speed rpm : 1290
Tolerance 1/min : +- 15 Rated speed rpm : 1450 LOW IDLE control lever position degree : 82.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 175 CRT mm min. :> 7.00Testing: Rated speed rpm : 275 rack travel mm : 4.70 Tolerance mm : +- 0.10 Rated speed rpm : 330 TORQUE CONTROL Rated speed rpm : 1000 rack travel mm : 10.60 Tolerance mm : ± 0.05 Rated speed rpm : 1150 rack travel mm : 10.60 Tolerance mm : + 0.10 ANEROID/ALTITUDE COMPENSATOR TEST SETTING Rated speed rpm : 600 Pressure hPa : 1000 rack travel mm : 10.60
Tolerance mm : + 0.05

rack travel mm : 9.50
Tolerance mm : +- 0.10

MEASUREMENT

Rated speed rpm : 600

Pressure hPa : 250
rack travel mm : 10.30
Tolerance mm : +- 0.05

Pressure hPa rack travel mm : 9.80
Tolerance mm : 9.80
Tolerance mm : +- 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : Rated speed rpm : 600
Del. quantity
cm3/1000 strokes : 122.5
Tolerance
cm3/1000 strokes : +- 1.0
Check tolerance
cm3/1000s. : +- 4.0

LOW IDLE

Rated speed rpm : 275

Rack travel in mm : 4.70
Tolerance mm : + 0.10
Del. quantity
cm3/1000 strokes : 17.0
Tolerance
cm3/1000 strokes : + 3.0
Check tolerance
cm3/1000s. : + 6.0
Spreed
Tolerance
cm3/1000 strokes : 8.0
Check tolerance
cm3/1000 strokes : 8.0
Check tolerance
cm3/1000s. : 12.0

End of test specification sheet

Rated speed rpm : 600 Pressure hPa : -

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 24.06.97 Test oil : ISO 4113

Combination No. : 0 402 646 668

Injection pump

Pump designation : PE6P12OA32ORS7412 EP type number : 0 412 626 953

Governor

Governer design. : RQV275...1000PA1278

: -1K

Governer no. : 0 421 815 510

Cust. part No. : 1310220/1

Customer-spec. information

Customer : DAF

Motor : XF 280 M Power KW : 280.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 417 413 000

Inlet press. bar : 1.5 Tolerance bar : + 0.1

Overflow quantity

min. l/h : 145 Tolerance l/h : +- 20.0

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar : 208.5 Tolerance bar : + 1.5 Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm : 4.45 Tolerance mm : +- 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm : 10.50 Tolerance mm : +- 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : +- 0.50

Check

tolerance °NW : +- 0.75

Start of delivery mark

Tolerance : \leftarrow 0.10

Check

tolerance *** : +- 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 750

Rack travel in mm : 12.60

J21

Tolerance mm Del. quantity	: +- 0.05	guide sleeve travel mm : 3.92 Tolerance mm : +- 0.25
cm3/1000 strokes Tolerance cm3/1000 strokes	: +- 1.0	Rated speed rpm : 1310 guide sleeve travel mm : 13.50
Check tolerance cm3/1000s.	: + 4.0	volerance mm : +- 0.50
Spreed		GUIDE SLEEVE POSITION
Tolerance cm3/1000 strokes	: 5.0	control lever position degree : - 1 Rated speed rpm : 1171
Check tolerance cm3/1000s.	: 9.0	Rack travel in mm : 10.70 Tolerance mm : +- 2.00
Rated speed rpm	: 275	FULL LOAD DELIVERY AT FULL LOAD STOP
Rack travel in mm Tolerance mm Del. quantity	: 3.90 : + 0.10	Rated speed rpm : 750 Aneroid pressure hPa : 1500
cm3/1000 strokes Tolerance	}	Del. quantity cm3/1000 strokes : 303.0
cm3/1000 strokes Check tolerance cm3/1000s.	: + 3.0	Tolerance cm3/1000 strokes : +- 1.0 Check tolerance
Spreed Tolerance		cm3/1000s. : +- 4.0 Spreed
cm3/1000 strokes Check tolerance cm3/1000s.	1	Tolerance cm3/1000 strokes : 5.0
cm3/10005.	: 12.0	Check tolerance cm3/1000s. : 9.0
(B) SETTING OF IN. WITH GOVERNOR	JECTION PUMP	
		CONTROL LEVER
GUIDE SLEEVE TRAV	EL +	control lever position degree : 118.0
Rated speed rpm guide sleeve	: 1062	tolerance degree : + 4.0
travel mm Tolerance mm	: 10.04 : + 0.15	RATED SPEED rack travel mm : 11.35
Rated speed rpm	+	Rated speed rpm : 1050 Tolerance 1/min : +- 5
guide sleeve travel mm	: 2.04	Check speed 1/min : +- 10
Tolerance mm Rated speed rpm	: +- 0.20 : 697	rack travel mm : 4.00 Rated speed rpm : 1150
guide sleeve travel mm	: 6.48	Tolerance 1/min : +- 15 Check
Tolerance mm	: ← 0.25	speed 1/min : +- 20
Rated speed rpm	: 400	rack travel mm : 0.50

Tolerance mm	: +- 0.50
Rated speed rpm	: 1275
LOW IDLE	
control lever position degree tolerance degree	
Setting point w/o	ut bumper spring
Rated speed rpm	: 175
CRT mm min.	: > 6.50
Testing:	
Rated speed rpm	: 275
rack travel mm	: 3.90
Tolerance mm	: ← 0.10
Rated speed rpm	: 300
TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm	: 750 : 12.60 : + 0.05
Rated speed rpm	: 980
rack travel mm	: 12.35
Tolerance mm	: +- 0.10
Rated speed rpm	: 900
rack travel mm	: 12.50
Tolerance mm	: + 0.10
Rated speed rpm	: 700
rack travel mm	: 12.30
Tolerance mm	: + 0.10
Rated speed rpm	: 600
rack travel mm	: 11.80
Tolerance mm	: + 0.10
Rated speed rpm	: 500
rack travel mm	: 11.45
Tolerance mm	: +- 0.10
Rated speed rpm	: 1000
rack travel mm	: 12.35
Tolerance mm	: + 0.10

ANEROID/ALTITUDE COMPENSATOR TEST
SETTING

02111110	
Rated speed rpm	: 775
Pressure hPa	: 1500
rack travel mm	: 12.65
Tolerance mm	: + 0.05
Rated speed rpm	: 775
Pressure hPa	: -
rack travel mm	: 8.50
Tolerance mm	: +- 0.20
MEASUREMENT	

Rated speed rpm	:	775
Pressure hPa	:	450
and the second of the second	_	42

rack travel mm : 12.10
Tolerance mm : +- 0.05

Pressure hPa : 170
rack travel mm : 9.90
Tolerance mm : + 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa Rated speed rpm	: 1500 : 980
Del. quantity cm3/1000 strokes Tolerance	: 272.0
cm3/1000 strokes	: ← 2.0
cm3/1000S. Spreed	: +- 5.0
Tolerance cm3/1000 strokes	: 8.0
Check tolerance cm3/1000s.	: 12.0

Aneroid pressure		
hPa	:	_
Rated speed rpm	:	600
Del. quantity		
cm3/1000 strokes	:	184.0
Tolerance		
cm3/1000 strokes	: +	- 1.0
Check tolerance		
cm3/1000S.	: +	- 4.0

Spreed

Tolerance

cm3/1000 strokes : 8.0

Check tolerance

cm3/1000s. : 12.0

LOW IDLE

Rated speed rpm : 275

Rack travel in mm : 3.90 Tolerance mm : + 0.10

Del. quantity

cm3/1000 strokes : 17.0

Tolerance

cm3/1000 strokes : +- 3.0

Check tolerance

cm3/1000s. : +- 6.0

Spreed

Tolerance

cm3/1000 strokes : 8.0

Check tolerance

cm3/1000s. : 12.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 24.06.97 : ISO 4113

Combination No. : 9 402 646 673

Injection pump

Pump designation : PE6P12OA32ORS7412 EP type number : 0 412 626 953

Governor

Governer design. : RQV275...1000PA1300K

Governer no. : 0 421 815 527

Cust. part No. : 1315099

Customer-spec. information

Customer : DAF

Motor

: XF 250 M

Power KW : 250.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C

temp. °C : 40
Tolerance °C : +- 2.0

Overflow valve : 1 417 413 000

Inlet press. bar : 1.5
Tolerance bar : +- 0.1

Overflow quantity

min. l/h : 150 Tolerance l/h : +- 20.0

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar

bar : 208.5 Tolerance bar : + 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter: 3.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 26.0

Tolerance bar : +- 1.0

Prestroke mm : 4.45 Tolerance mm : + 0.05

Check

tolerance mm : \leftarrow 0.10

Rack travel in mm : 10.50

Tolerance mm : +- 1.50

Firing order : 1-5-3-6-2-

Phasing : 0-60-120-180-240

: -300 : +- 0.50 Tolerance

Check

tolerance 'NW : + 0.75

Start of delivery mark

Tolerance : + 0.10

Check

tolerance °NW : +- 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 750

Rack travel in mm : 12.00 Tolerance mm: +- 0.05

J25

	+ guide steeve
Del. quantity	travel mm : 3.92
cm3/1000 strokes : 289.0	+ Tolerance mm : +- 0.25
Tolerance	+ Rated speed rpm : 1310
cm3/1000 strokes : +- 1.0	+ guide sleeve
01	+ travel mm : 13.50
Check tolerance	+ Tolerance mm : +- 0.50
cm3/100US. : +- 4.0	
Spreed	GUIDE SLEEVE POSITION
opi eed	T GOIDE SEEEVE POSITION
Tolerance	
cm3/1000 strokes : 5.0	
	position degree : - 1
Check tolerance	+ Rated speed rpm : 1181
cm3/1000s. : 9.0	+
	† Rack travel in mm : 10.00
	† Tolerance mm : +- 1.30
Detect and an action 275	†
Rated speed rpm : 275	FULL LOAD DELTUEDY AT FULL LOAD CTOD
Rack travel in mm : 3.90	FULL LOAD DELIVERY AT FULL LOAD STOP
Tolerance mm : +- 0.10	Rated speed rpm : 750
Del. quantity	Aneroid pressure
cm3/1000 strokes : 17.0	hPa : 1500
Tolerance	Del. quantity
cm3/1000 strokes : +- 3.0	cm3/1000 strokes : 289.0
Check tolerance	- Tolerance
cm3/1000s. : +- 6.0	+ cm3/1000 strokes : +- 1.0
Spreed	+ Check tolerance
Tolerance	+ cm3/1000s. : +- 4.0
cm3/1000 strokes : 8.0	Spreed
Check tolerance	† Tolerance
cm3/1000s. : 12.0	+ cm3/1000 strokes : 5.0
	+ Check tolerance
•	+ cm3/1000s. : 9.0
(B) SETTING OF INJECTION PUMP	†
WITH GOVERNOR	†
	CONTROL LEVED
GUIDE SLEEVE TRAVEL	CONTROL LEVER
ANTAL AFFEAT WANTE	T control lever
Rated speed rpm : 1072	position degree : 118.0
guide steeve	tolerance degree : +- 4.0
travel mm : 10.16	+
Tolerance mm : + 0.15	+ RATED SPEED
	rack travel mm : 10.50
Rated speed rpm : 275	+ Rated speed rpm : 1045
guide sleeve	+ Tolerance 1/min : +- 5
travel mm : 2.04	+ Check
Tolerance mm : +- 0.20	+ speed 1/min : +- 10
B	†
Rated speed rpm : 701	+ rack travel mm : 4.00
guide sleeve	+ Rated speed rpm : 1140
travel mm : 6.52	Tolerance 1/min : +- 15
Tolerance mm : \leftarrow 0.25	theck
Rated speed rpm : 400	+ speed 1/min : +- 20
Rated speed rpm : 400	rack travel mm : 0.70
	T TALK CLAVEL MATE : U.TU

Tolerance mm Rated speed rpm	: +- 0.70 : 1275
LOW IDLE	
control lever position degree tolerance degree	: 70.0 : + 4.0
Setting point w/o	ut bumper spring
Rated speed rpm	: 175
CRT mm min.	: > 6.50
Testing:	
Rated speed rpm rack travel mm Tolerance mm	: 275 : 3.90 : + 0.10
Rated speed rpm	: 310
TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm	: 750 : 12.00 : + 0.05
Rated speed rpm rack travel mm Tolerance mm	: 986 : 11.50 : +- 0.10
Rated speed rpm rack travel mm Tolerance mm	: 900 : 11.70 : ← 0.10
Rated speed rpm rack travel mm Tolerance mm	
Rated speed rpm rack travel mm Tolerance mm	: 600 : 11.40 : + 0.10
Rated speed rpm rack travel mm Tolerance mm	: 500 : 10.90 : + 0.10
Rated speed rpm rack travel mm Tolerance mm	: 1000 : 11.50 : + 0.10

ANEROID/ALTI	TUDE
COMPENSATOR	TEST

SETTING

Rated speed rpm	:	775
Pressure hPa	:	1500
rack travel mm Tolerance mm	: : +	12.00 - 0.05
Rated speed rpm	:	775

Rated speed rpm : 775
Pressure hPa : rack travel mm : 8.30
Tolerance mm : +- 0.20

MEASUREMENT

Rated speed rpm	: 775
Pressure hPa	: 460
rack travel mm	: 11.00
Tolerance mm	: +- 0.05
Pressure hPa	: 250
rack travel mm	: 9.30
Tolerance mm	: +- 0.10

FUEL DELIVERY CHARACTERISTICS

FOEL DELIVERY CHA	RACIEN	131163		
Aneroid pressure	: 1	500		
Rated speed rpm Del. quantity	•	980		
cm3/1000 strokes	:	250.0		
Tolerance cm3/1000 strokes	: +-	2.0		
Check tolerance cm3/1000S. Spreed Tolerance	: +-	5.0		
cm3/1000 strokes	:	8.0		
Check tolerance cm3/1000S.	:	12.0		
Aneroid pressure				
hPa Rated speed rpm	:	600		
Del. quantity cm3/1000 strokes	:	188.0		
Tolerance				

cm3/1000 strokes : \leftarrow 1.0 Check tolerance cm3/100s. : \leftarrow 4.0

LOW IDLE

Rated speed rpm	:	275	
Rack travel in mm Tolerance mm Del. quantity	: +-	3.90 0.10	
744000	:	17.0	
cm3/1000 strokes	: +-	3.0	
Check tolerance cm3/1000S. Spreed	: +-	6.0	
Tolerance cm3/1000 strokes Check tolerance	:	8.0	
cm3/1000s.	:	12.0	

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition

: 16.06.97 Test oil : 16.06.97

Combination No. : 0 402 646 742

Injection pump

Pump designation : PE6P120A320LS7837-2

EP type number : 0 412 626 943

Governor

Governer design. : RQ300/1100PA1272

Governer no. : 0 421 801 804

Cust. part No. : 0270743002

Customer-spec. information Customer : MB-NFZ Motor : 0M441 LA : 228.0 Power KW

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C 40 Tolerance °C

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5 Tolerance bar : + 0.1

Overflow quantity

min. L/h : 120 Tolerance L/h : ← 20.0

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

: 208.5 bar Tolerance bar : + 1.5 Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0

x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm 5.25 : +- 0.05 Tolerance mm

Check

: +- 0.10 tolerance mm

Rack travel in mm : 20.50 Tolerance mm : +- 0.50

Firing order : 6-3-5-2-4-

: 1

: 0-60-120-180-240 Phasing

: -300

: +- 0.50 Tolerance

Check

: +- 0.75 tolerance °NW

Start of delivery mark

: +- 0.10 Tolerance

Check

tolerance *NW : +- 0.75

Barrel no. : 6

CRT ZERO POSITION

Rack travel in mm : 12.50

Tolerance mm : +- 0.10	+ guide sleeve + travel mm : 2.24
BASIC SETTING	+ Tolerance mm : +- 0.20
Rated speed rpm : 600	Rated speed rpm : 1100 guide sleeve
	_ + travel mm : 6.00 - Tolerance mm : +- 0.10
Rack travel in mm : 12.50 Tolerance mm : + 0.10	Rated speed rpm : 429
Del. quentity	+ guide sleeve
cm3/1000 strokes : 191.0	travel mm : 4.97 Tolerance mm : +- 0.10
Tolerance cm3/1000 strokes : +- 1.0	Rated speed rpm : 550 guide sleeve travel mm : 6.00
Check tolerance cm3/1000s. : +- 4.0	Tolerance mm : +- 0.10
Spreed	Rated speed rpm : 1340 guide sleeve
Tolerance	+ travel mm : 11.50 + Tolerance mm : +- 0.50
cm3/1000 strokes : 6.0	
Check tolerance cm3/1000s. : 9.0	GUIDE SLEEVE POSITION
	control lever
Rated speed rpm : 300	+ position degree : 109 + Rated speed rpm : 650
Rack travel in mm : 5.60	Rack travel in mm : 20.00
Tolerance mm : + 0.10 Del. quantity	+ Tolerance mm : +- 0.80
cm3/1000 strokes : 16.0 Tolerance	FULL LOAD DELIVERY AT FULL LOAD STOP
cm3/1000 strokes : + 3.0 Check tolerance	+ Rated speed rpm : 600
cm3/1000s. : +- 6.0 Spreed	Aneroid pressure hPa : 600
Tolerance cm3/1000 strokes : 6.0	+ Del. quantity + cm3/1000 strokes : 191.0
Check tolerance cm3/1000s. : 10.0	Tolerance cm3/1000 strokes : +- 1.0 Check tolerance
(B) SETTING OF INJECTION PUMP	+ cm3/1000s. : +- 4.0 + Spreed
WITH GOVERNOR	Tolerance cm3/1000 strokes : 6.0
GUIDE SLEEVE TRAVEL	Check tolerance cm3/1000s. : 9.0
Rated speed rpm : 1146 guide sleeve	
travel mm : 6.54 Tolerance mm : + 0.15	CONTROL LEVER
Rated speed rpm : 300	control lever position degree : 94.0
Reced speed i pill . 300	tolerance degree : +- 4.0

RATED SPEED rack travel mm Rated speed rpm Tolerance 1/min Check speed 1/min		ANEROID/ALTITUDE COMPENSATOR TEST	
Speca (7mm)		+ 2-stage LDA setti	ng
rack travel mm Rated speed rpm Tolerance 1/min Check	: 4.00 : 1260 : + 15	Rated speed rpm Pressure hPa	: 400 : 600
speed 1/min	: +- 20	+ MEASUREMENT	
rack travel mm Tolerance mm Rated speed rpm	: 0.75 : + 0.75 : 1350	Pressure hPa rack travel mm Tolerance mm	: 350 : -1.20 : +- 0.15
		Pressure hPa rack travel mm Tolerance mm	: 200 : -2.20 : + 0.20
LOW IDLE		+ Pressure hPa + rack travel mm	: 975 : 0.50
control lever position degree tolerance degree		Tolerance mm	: +- 0.05
		+ Start interlock	
Setting point w/o	out pumper spring	Rated speed rpm	: > 100
Rated speed rpm	: 200	Rated speed rpm	: < 220
CRT mm min.	: > 9.00	+ Check - speed 1/min	: > 80
Testing:		+ Check + speed 1/min	: < 240
Rated speed rpm rack travel mm Tolerance mm	: 300 : 5.60 : +- 0.10	FUEL DELIVERY CHAP	
rack travel mm Rated speed rpm Tolerance 1/min		Aneroid pressure hPa Rated speed rpm Del. quantity	: 1500 : 1100
TORQUE CONTROL Rated speed rpm rack travel mm	: 600 : 12.50	cm3/1000 strokes Tolerance cm3/1000 strokes	
Tolerance mm	: + 0.10	- Check tolerance cm3/1000s.	: +- 4.5
Rated speed rpm rack travel mm Tolerance mm	: 1100 : 13.70 : + 0.10	Spreed Tolerance cm3/1000 strokes	: 8.0
Rated speed rpm rack travel mm	: 700 : 13.70	+ Check tolerance + cm3/1000s.	: 12.0
Tolerance mm	: +- 0.10	Aneroid pressure hPa Rated speed rpm	: 1500 : 700

Del. quantity cm3/1000 strokes : 216.0 Tolerance 3.0 cm3/1000 strokes : +-Check tolerance cm3/1000s. 6.0 Aneroid pressure hPa Rated speed rpm 500 Del. quantity cm3/1000 strokes : 145.0 Tolerance cm3/1000 strokes 1.0 Check tolerance cm3/1000S. 4.0 STARTING FUEL DELIVERY 100 Rated speed rpm : Del. quantity cm3/1000 strokes : 205.0 Tolerance cm3/1000 strokes : + - 15.0Check tolerance cm3/1000s. : +- 19.0 LOW IDLE Rated speed rpm : 300 Rack travel in mm : 5.60 0.10 Tolerance mm Del. quantity cm3/1000 strokes : 16.0 Tolerance cm3/1000 strokes : +-3.0 Check tolerance cm3/1000S. 6.0 Spreed Tolerance 6.0 cm3/1000 strokes : Check tolerance cm3/1000S. 10.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 24.06.97 Test oil : ISO 4113

Combination No. : 0 402 646 763

Injection pump

Pump designation : PE6P120A320LS7834

: -10

EP type number : 0 412 626 853

Governor

Governer design. : RQV300...1050PA1065

: -2

Governer no. : 0 421 814 135

Cust. part No. : 0260743702

Customer—spec. information
Customer : MB-NFZ
Motor : OM401 LA
Power KW : 230.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 2.0 Tolerance bar : + 0.1

Overflow quantity

min. L/h : 110 Tolerance L/h : + 10.0

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar : 208.5

Tolerance bar : +- 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter: 3.0 x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 5.25 Tolerance mm : + 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm : 20.50 Tolerance mm : + 0.50

Firing order : 6-3-5-2-4-

: 1

Phasing : 0-60-120-180-240

: -300

Start of delivery mark

Tolerance : \leftarrow 0.10

Check

tolerance *NW : + 0.75

Barrel no. : 6

BASIC SETTING

Rated speed rpm : 550

Rack travel in mm : 14.80
Tolerance mm : +- 0.05

Del. quantity cm3/1000 strokes : 230.0	+ Tolerance mm : +- 0.25
Tolerance	Rated speed rpm : 750 guide sleeve
cm3/1000 strokes : +- 1.0	travel mm : 4.87
	+ Tolerance mm : +- 0.25
Check tolerance	+
cm3/100CS. : +- 4.0	+ Rated speed rpm : 1310
	+ guide sleeve
Spreed	+ travel mm : 13.50
Tolerance	Tolerance mm : + 0.50
cm3/1000 strokes : 5.0	I
(IID) 1000 311 0003 1 3.0	4 GUIDE SLEEVE POSITION
Check tolerance	+
cm3/1000s. : 9.0	+
State and the property of the state of the s	+ control lever
	position degree : - 1
5 to 1 and and 200	+ Rated speed rpm : 1200
Rated speed rpm : 300	+ Rack travel in mm : 13.80
Rack travel in mm : 5.20	+ Tolerance mm : +- 1.30
Tolerance mm : + 0.10	1 occi dilec imi
Del. quantity	ļ
cm3/1000 strokes : 13.0	FULL LOAD DELIVERY AT FULL LOAD STOP
Tolerance	+
cm3/1000 strokes : + 3.0	+ Rated speed rpm : 550
Check tolerance	Aneroid pressure
cm3/1000S. : +- 6.0 Spreed	† hPa : 1000 + Del. quar∷ity
Tolerance	+ cm3/1000 strokes : 230.0
cm3/1000 strokes : 6.0	+ Tolerance
Check tolerance	+ cm3/1000 strokes : + 1.0
cm3/1000s. : 10.0	+ Check tolerance
	+ cm3/1000s. : + 4.0
(E) ASSETTION AS THE STATE OF T	+ Spreed
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	+ Tolerance + cm3/1000 strokes : 5.0
WITH GOVERNOR	- Check tolerance
	+ cm3/1000s. : 9.0
GUIDE SLEEVE TRAVEL	
	}
Rated speed rpm : 1108	†
guide sleeve	CONTROL LEVER
travel mm : 9.82 Tolerance mm : +- 0.25	T + control lever
Total and the man to the state of the state	position degree : 104.0
Rated speed rpm : 300	tolerance degree : + 4.0
guide sleeve	+
travel mm : 1.13	RATED SPEED
Tolerance mm : + 0.25	rack travel mm : 13.80
770	Rated speed rpm : 1095
Rated speed rpm : 370	Tolerance 1/min : +- 5
guide sleeve travel mm : 2.00	rack travel mm : 4.00
Tolerance mm : + 0.25	Rated speed rpm : 1195
1,000 mm	Tolerance 1/min : + 15
Rated speed rpm : 420	+
guide sleeve	rack travel mm : 0.75
travel mm : 2.49	Tolerance mm : + 0.75

Dated speed nam	: 1300 +		
Rated speed rpm	; 1300 I	Pressure hPa : 400	
	1	rack travel mm : 12.90	
	+	Tolerance mm : +- 0.20	
LOW IDLE	+	Pressure hPa : 600	
	t	rack travel mm : 14.15	
	†	Tolerance mm : $+$ 0.20	
control lever	†		
position degree		Start interlock	
tolarance degree	: + 4.0	Start interlock	
Setting point w/o	out bumper spring	Rated speed rpm : > 100	
Total III	-	Rated speed rpm : < 220	
Rated speed rpm	: 200	,	
. ,	+	Check	
CRT mm min.	: > 8.10 +	speed 1/min :> 80	
	+	Check	
Testing:	+	speed 1/min : < 240	
	t		
Rated speed rpm			
rack travel mm		FUEL DELIVERY CHARACTERISTICS	
Tolerance mm	: + 0.10 +		
Deduct second sec	. 750	Aparoid progrups	
Rated speed rpm	: 350	Aneroid pressure hPa : 1000	
	T	Rated speed rpm : 1050	
TORQUE CONTROL		Del. quantity	
Rated speed rpm	. 550 I	cm3/1000 strokes : 227.0	
rack travel mm		Tolerance	
Tolerance mm	T	cm3/1000 strokes : +- 3.0	
lotel diffe um	1	Check tolerance	
Rated speed rpm	: 1050	cm3/1000s. : + 6.0	
rack travel mm		Spreed	
Tolerance mm	: + 0.10 +	Tolerance	
	+	cm3/1000 strokes : 8.0	
Rated speed rpm	: 700	Check tolerance	
rack travel mm		cm3/1000s. : 12.0	
Tolerance mm	: ← 0.05 +		
	+		
		Aneroid pressure	
ANEROID/ALTITUDE	†	hPa : -	
COMPENSATOR TEST	†	Rated speed rpm : 500	
	Ť	Del. quantity cm3/1000 strokes : 129.0	
CETTING	Ī	cm3/1000 strokes : 129.0 Tolerance	
SETTING	I	cm3/1000 strokes : + 1.0	
Rated speed rpm	: 400	Check tolerance	
Pressure hPa	1000	cm3/1000s. : +- 4.0	
rack travel mm	14.80	Spreed	
Tolerance mm	+ 0.05	Tolerance	
TOTAL GIRLS	1	cm3/1000 strokes : 8.0	
Rated speed rpm	: 400	Check tolerance	
Pressure hPa	+	cm3/1000s. : 12.0	
rack travel mm	: 10.50		
Tolerance mm	: ← 0.15 +		
	+		
MEASUREMENT	<u>†</u>	STARTING FUEL DELIVERY	
Rated speed rpm	: 400	Rated speed rpm : 100	

K07

Del. quantity
cm3/1000 strokes : 210.0
Tolerance
cm3/1000 strokes : +- 15.0
Check tolerance
cm3/1000s. : +- 19.0

LOW IDLE

300 Rated speed rpm : 5.20 Rack travel in mm : : +- 0.10 Tolerance mm Del. quantity cm3/1000 strokes : 13.0 Tolerance cm3/1000 strokes : +-3.0 Check tolerance cm3/1000s. 6.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. 10.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 30.09.94 Edition Test oil : ISO 4113

Combination No. : 0 402 646 904

Injection pump

Pump designation : PE6P12OA72ORS7126

: -10

: 0 412 626 929 EP type number

Governor

Governer design. : RQV300...900PA795

: -10

: 0 421 813 846 Governer no.

Cust. part No. : 1305081

Customer-spec. information Customer : SCANIA : DS11 Motor

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Vibration damper

(RoBo diaphragm) : 3.1

Test oil inlet

temp. °C : +- 2.0 Tolerance °C

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5

Test nozzle holde

: 1 688 901 019 assembly

Opening pressure

: 208.5 Tolerance bar : +- 1.5 Test lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter: 3.0 600 x length mm :

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar: 26.0 Tolerance bar : + 1.0

Firing order : 1-5-3-6-2-

Phasing : 0-60-120-180-240

: -300

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm: 14.75 Tolerance mm : \leftarrow 0.05

Del. quantity

cm3/1000 strokes : 235.0

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance

: +- 4.0 cm3/1000s.

Spreed

Tolerance

cm3/1000 strokes : 6.0

Check tolerance

cm3/1000s.

9.0

Rated speed rpm : 300	tolerance degree : +- 4.0
Rack travel in mm : 4.50	RATED SPEED
Tolerance mm : +- 0.10	+ rack travel mm : 13.10
	Rated speed rpm : 945
Del. quantity cm3/1000 strokes : 17.0	Tolerance 1/min : + 5
	+ Check
Tolerance	111 = 1
cm3/1000 strokes : + 2.0	+ speed 1/min : +- 10
Check tolerance	1
cm3/1000s. : + 4.0	rack travel mm : 4.00
Spreed	Rated speed rpm : 1045
Tolerance	† Tolerance 1/min : + 15
cm3/1000 strokes : 3.0	+ Check
Check tolerance	+ speed 1/min : +- 20
cm3/1000s. : 6.0	+
	+ rack travel mm : 0.50
	† Tolerance mm : +- 0.50
(B) SETTING OF INJECTION PUMP	Rated speed rpm : 1150
WITH GOVERNOR	+
	+
	İ
GUIDE SLEEVE POSITION	LOW IDLE
GOIDE SEEEAE ! COI! TO!A	1
	1
control lever	+ control lever
position degree : - 1	+ position degree : 77.0
Rated speed rpm : 970	tolerance degree : +- 4.0
Rated Speed (pill . 970	1 coterante degree : 4.0
Rack travel in mm : 16.50	T control lever
Tolerance mm : + 1.30	position degree : 19.0
roterance man . — 1.50	tolerance degree : +- 4.0
	T total alice degree . F 4.0
FULL LOAD DELIVERY AT FULL LOAD STOP	Setting point w/out bumper spring
	+
Rated speed rpm : 700	+ Rated speed rpm : 100
Aneroid pressure	+
hPa : -	+ CRT mm min. : > 10.00
Del. quantity	+
cm3/1000 strokes : 235.0	+ Testing:
Tolerance	+
cm3/1000 strokes : + 1.0	+ Rated speed rpm : 300
Check tolerance	+ rack travel mm : 4.50
cm3/1000s. : + 4.0	+ Tolerance mm : + 0.10
Spreed	+
Tolerance	+ Rated speed rpm : 300
cm3/1000 strokes : 6.0	+ rack travel mm : 2.00
Check tolerance	
cm3/1000s. : 9.0	
	TORQUE CONTROL
	Rated speed rpm : 700
	rack travel mm : 14.15
CONTROL LEVER	Tolerance mm : + 0.05
CONTINUE EEREN	1
control lever	Rated speed rpm : 900
position degree : 50.0	rack travel mm : 14.15
tolerance degree : +- 4.0	Tolerance mm : + 0.05
toterance degree 4.0	T roter arice mail
control lever	\mathbf{I}
position degree : 108.0	1
position degree . 100.0	I

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

500 Rated speed rpm Pressure hPa 900 14.15 rack travel mm : +- 0.05 Tolerance mm

500 Rated speed rpm Pressure hPa 10,70 rack travel mm Tolerance mm : +- 0.20

MEASUREMENT

Rated speed rpm 500

510 Pressure hPa 13.05 rack travel mm : + 0.05Tolerance mm

Pressure hPa 250 rack travel mm 11.20 Tolerance mm : + 0.20

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa 900 Rated speed rpm

Del. quantity cm3/1000 strokes : 224.0

Tolerance

cm3/1000 strokes : +-4.0 Check tolerance cm3/1000s. 6.0

Aneroid pressure

hPa 500 Rated speed rpm Del. quantity

cm3/1000 strokes : 152.0

Tolerance

cm3/1000 strokes : +-2.0

Check tolerance

cm3/1000s.4.0

STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm 20.50 : + - 0.50Tolerance mm Del. quantity cm3/1000 strokes : 300.0 Tolerance cm3/1000 strokes : +- 20.0Check tolerance cm3/1000s. : + 24.0

LOW IDLE

cm3/1000s.

300 Rated speed rpm : Rack travel in mm : 4.50 Tolerance mm : +- (..10 Del. quantity cm3/1000 strokes : 17.0 Tolerance cm3/1000 strokes : +-2.0 Check tolerance cm3/1000s. 4.0 Spreed Tolerance cm3/1000 strokes : 3.0 Check tolerance

End of test specification sheet

6.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition

: 20.06.97

Test oil

: ISO 4113

Combination No. : 0 402 648 783

Injection pump

Pump designation : PE8P120A320LS7906-1

EP type number : 0 412 628 925

Governor

Governer design. : RQ750PA1326

Governer no. : 0 421 801 815

Cust. part No. : 04222 3938 KY

Customer-spec. information

Customer : KHD

Motor

: BF8M1015/C

Power KW

: 318.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C

40

Tolerance °C

2.0

Overflow valve : 2 417 413 033

Inlet press. bar : 2.5 Tolerance bar : + 0.1

Overflow quantity

min. l/h : 200 Tolerance l/h : + 20.0

Test nozzle holde

assembly

: 1 688 901 105

Opening pressure

K12

: 208.5

Tolerance bar : + 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter :

3.0

x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____ _

BEGINNING OF DELICERY

Test pressure bar : 26.0

Tolerance bar : + 1.0

Prestroke mm : 3.65
Tolerance mm : + 0.05

Check

tolerance mm : \leftarrow 0.10

Rack travel in mm : 10.50

Tolerance mm : +- 1.50

Firing order : 8-7-2-6-5

: - 4- 3- 1

Phasing : 0-45-90-135-180

: -225-270-315 : +- 0.50 Tolerance

Check

tolerance *NW : + 0.75

Start of delivery blocking

*NW after s.o.d. : 315.00 : +- 0.50

Check

Tolerance

tolerance °NW

: +- 0.75

Barrel no.

: 8

BASIC SETTING

Rated speed rpm :

700

		l muide el enve	
Rack travel in mm	n: 12.60	+ guide sleeve + travel mm	: 12.00
Tolerance mm	: +- 0.05	+ Tolerance mm	: +- 0.25
rocci di loc likil		Total dilec iiiii	
Del. quantity		+ Rated speed rpm	: 930
cm3/1000 strokes	: 365.0	+ guide sleeve	
		+ travel mm	: 13.50
Tolerance		+ Tolerance mm	: +- 0.50
cm3/1000 strokes	: +- 1.0	+	
		5.44 4.045 5.51 7.455	W AT 500 1 1040 CT00
Check tolerance		+ FULL LOAD DELIVER	Y AT FULL LOAD STOP
cm3/1000S.	: +- 4.0	Rated speed rpm	: 700
Spreed		+ Aneroid pressure	. 700
Spr eeu		hPa	• -
Tolerance		Del. quantity	•
cm3/1000 strokes	: 5.0	+ cm3/1000 strokes	: 365.0
	•	Tolerance	
Check tolerance		+ cm3/1000 strokes	: + 1.0
cm3/1000s.	: 9.0	Check tolerance	
		+ cm3/1000s.	: ← 4.0
		Spreed	
		+ Tolerance	
Rated speed rpm	: 300	+ cm3/1000 strokes	: 5.0
Del. quantity	20.0	- Check tolerance	0.0
cm3/1000 strokes	: 20.0	+ cm3/1000s.	: 9.0
Tolerance	: + 3.0	†	
cm3/1000 strokes	: - 3.0	Ť	
Check tolerance cm3/1000s.	: +- 6.0	T CONTROL LEVER	
Spreed	: - 6.0	T CONTROL LEVER	
Tolerance		T control lever	
cm3/1000 strokes	: 8.0	position degree	: 110.0
Check tolerance	. 0.0	+ tolerance degree	
cm3/1000s.	: 12.0		
		1	
		ASSEMBLY GOVERNOR	SETTING
(B) SETTING OF IN	NJECTION PUMP	+	
WITH GOVERNOR		+ Rated speed rpm	: 750
		+ rack travel mm	: 11.60
	A. C. L.	† Santal San	. 700
GUIDE SLEEVE TRAV	/EL	+ Rated speed rpm	
Detect aread are	. 715	Tolerance 1/min rack travel mm	: +- 4 : 4.50
Rated speed rpm guide sleeve	: 715	I rack travet mm	4.20
guide steeve travel mm	: 4.23	rack travel mm	: 0.50
Tolerance mm	: 4.23 : +- 0.15	Tolerance mm	: +- 0.50
TOTEL GITCE (III)		Rated speed rpm	
Rated speed rpm	: 610	1.0000 00000 1011	
guide sleeve		+	
travel mm	: 0.72	Rated speed rpm	: 751
Tolerance mm	: +- 0.25	+ rack travel mm	: 11.60
		+	
Rated speed rpm	: 900	+ Rated speed rpm	
guide sleeve		+ Tolerance 1/min	
travel mm	: 14.89	† rack travel mm	: 4.50
Tolerance mm	: ← 0.25	†	. 0.50
	8/3	+ rack travel mm	: 0.50
Rated speed rpm	: 862	† Tolerance mm	: ← 0.50
		+	

Rated speed rpm rack travel mm	
Rated speed rpm Tolerance 1/min rack travel mm	: 782 : +- 4 : 4.50
rack travel mm Tolerance mm Rated speed rpm	: ← 0.50
Rated speed rpm rack travel mm	: 753 : 11.60
Rated speed rpm Tolerance 1/min rack travel mm	; - 4
rack travel mm Tolerance mm	: 0.50 : +- 0.50
Rated speed rpm rack travel mm	: 754 : 11.60
Rated speed rpm Tolerance 1/min rack travel mm	
rack travel mm Tolerance mm Rated speed rpm	
Rated speed rpm rack travel mm	: 755 : 11.60
Rated speed rpm Tolerance 1/min rack travel mm	: 785 : + 4 : 4.50
rack travel mm Tolerance mm	: 0.50 : + 0.50
TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm	: 700 : 12.60 : + 0.05
Start interlock	
Rated speed rpm Rated speed rpm	

Check speed 1/min	:	>	80		
Check speed 1/min	:	<	580		
STARTING FUEL DEL	IV	ERY		-1	
Rated speed rpm	:		100		
rack travel mm Tolerance mm	:	+-	20.25		
Del. quantity cm3/1000 strokes Tolerance	:		200.0		
cm3/1000 strokes Check tolerance	:	+	15.0		
cm3/1000s.	:	+	19.0		
LOW IDLE					
Rated speed rpm Del. quantity	•		300		
cm3/1000 strokes	:		20.0		
Tolerance cm3/1000 strokes Check tolerance	:	+	3.0		
cm3/1000s. Spreed Tolerance	:	+-	6.0		
cm3/1000 strokes	:		8.0		
Check tolerance cm3/1000S.	:		12.0		

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 23.06.97 Test oil : ISO 4113

Combination No. : 0 402 648 794

Injection pump

Pump designation : PE8P12OA32OLS7890 EP type number : 0 412 628 913

Governor

Governer design. : RQV350...900PA1266

Governer no. : 0 421 814 171

Cust. part No. : 0260740502

Customer—spec. information
Customer : MB-NFZ
Motor : 0M442 LA
Power KW : 327.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5 Tolerance bar : + 0.1

Overflow quantity

min. l/h : 100 Tolerance l/h : +- 20.0

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar : 208.5 Tolerance bar : + 1.5 Test Lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 5.25 Tolerance mm : + 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm : 20.50Tolerance mm : \div 0.50

Firing order : 8-7-2-6-3

: - 5- 4- 1

Phasing : 0-45-90-135-180 : -225-270-315

Tolerance : + 0.50

Check

tolerance °NW : + 0.75

Start of delivery mark

Barrel no. : 8

CRT ZERO POSITION

Rack travel in mm : 10.20 Tolerance mm : +- 0.10

BASIC SETTING

Rated speed rpm : 600

	1
Rack travel in mm : 10.20	Rated speed rpm : 520
Tolerance mm : +- 0.05	guide sleeve
	+ travel mm : 3.23
Del. quantity	Tolerance mm : + 0.25
cm3/1000 strokes : 209.0	+
	+ Rated speed rpm : 1073
Tolerance	+ guide sleeve
cm3/1000 strokes : +- 1.0	+ travel mm : 10.00
	+ Tolerance mm : + 0.25
Check tolerance	†
cm3/1000s. : +- 4.0	+ Rated speed rpm : 1160
Chanad	+ guide sleeve + travel mm : 11.50
Spreed	+ Tolerance mm : + 0.50
Tolerance	Toterance min : += 0.50
cm3/1000 strokes : 6.0	
	GUIDE SLEEVE POSITION
Check tolerance	+
cm3/1000s. : 9.0	+
	+ control lever
	position degree : - 1
	+ Rated speed rpm : 1032
Rated speed rpm : 350	†
	+ Rack travel in mm : 13.50
Rack travel in mm: 4.00	+ Tolerance mm : + 2.00
Tolerance mm : + 0.10	†
Del. quantity cm3/1000 strokes : 14.0	FULL LOAD DELIVERY AT FULL LOAD STOP
Tolerance	T FOLL EOAD DELIVERY AT FOLL LOAD STOP
cm3/1000 strokes : +- 3.0	Rated speed rpm : 600
Check tolerance	+ Aneroid pressure
cm3/1000s. : +- 6.0	+ hPa : 500
Spreed	Del. quantity
Tolerance	+ cm3/1000 strokes : 209.0
cm3/1000 strokes : 6.0	Tolerance
Check tolerance	+ cm3/1000 strokes : +- 1.0
cm3/1000s. : 10.0	+ Check tolerance
	+ cm3/1000s. : +- 4.0
	+ Spreed
(B) SETTING OF INJECTION PUMP	+ Tolerance
WITH GOVERNOR	+ cm3/1000 strokes : 6.0
	Check tolerance cm3/1000s. : 9.0
GUIDE SLEEVE TRAVEL	+ cm3/1000s. : 9.0
GOIDE SCEEVE TRAVEL	I
Rated speed rpm : 958	
guide sleeve	+ CONTROL LEVER
travel mm : 7.30	
Tolerance mm : +- 0.15	+ control lever
	position degree : 118.0
Rated speed rpm : 350	tolerance degree : + 4.0
guide steeve	†
travel mm : 1.69	+ RATED SPEED
Tolerance mm : +- 0.20	+ rack travel mm : 11.50
Rated speed rpm : 770	Rated speed rpm : 945 Tolerance 1/min : +- 5
Rated speed rpm : 770 guide sleeve	+ Tolerance 1/min : +- 5
travel mm : 4.89	rack travel mm : 4.00
Tolerance mm : +- 0.25	Rated speed rpm : 1025
TOTAL GIFTO WILL	1and alasam clam a came.

Tolerance 1/min : +- 15 : 900 Pressure hPa rack travel mm : 0.75 Tolerance mm : +- 0.75 rack travel mm : 1.20 Tolerance mm : +- 0.10 1.20 Rated speed rpm : 1200 Start interlock Rated speed rpm :> 100 Rated speed rpm : < 270 LOW IDLE Check speed 1/min : > 80 control lever position degree : 65.0 Check 290 speed 1/min : < tolerance degree : + 4.0 Setting point w/out bumper spring FUEL DELIVERY CHARACTERISTICS Rated speed rpm : 250 CRT mm min. :> 6.00Aneroid pressure : 1200 hPa Testing: Rated speed rpm : 880 Del. quantity Rated speed rpm cm3/1000 strokes : 238.0 350 : rack travel mm : 4.00 Tolerance : + 0.10cm3/1000 strokes : +- 3.0 Tolerance mm Check tolerance : ← 6.0 Rated speed rpm : 350 cm3/1000s.Aneroid pressure TORQUE CONTROL Rated speed rpm : 600 Rated speed rpm : 10.20 500 rack travel mm : : +- 0.05 Del. quantity Tolerance mm cm3/1000 strokes : 178.0 Rated speed rpm : 880 rack travel mm : 12.50 Tolerance cm3/1000 strokes : +- 1.0Check tolerance Tolerance mm : **←** 0.10 cm3/1000s. : +- 4.0 ANEROID/ALTITUDE COMPENSATOR TEST STARTING FUEL DELIVERY Rated speed rpm : 100 Del. quantity 2-stage LDA setting cm3/1000 strokes : 270.0 Rated speed rpm 600 Tolerance 500 cm3/1000 strokes : +- 20.0Pressure hPa : Check tolerance cm3/1000s. : +- 24.0 MEASUREMENT : 250 : -0.50 Pressure hPa rack travel mm Tolerance mm : \leftarrow 0.05 LOW IDLE Pressure hPa : 800 rack travel mm : 0.80 Tolerance mm : + 0.05 Rated speed rpm : 350

Rack travel in mm Tolerance mm	: +-	4.00 0.10
Del. quantity cm3/1000 strokes	:	14.0
Tolerance cm3/1000 strokes	: +-	3.0
Check tolerance cm3/1000s.	: +-	6.0
Spreed Tolerance		
cm3/1000 strokes Check tolerance	:	6.0
cm3/1000s.	:	10.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 24.06.97 Edition Test oil : ISO 4113

Combination No. : 0 402 648 967

Injection pump

Pump designation : PE8P120A320LS7871 EP type number : 0 412 628 877

Governor

Governer design. : RQV300...1050PA1078

: -1K

: 0 421 815 361 Governer no.

Cust. part No. : 9275447

Customer-spec. information Customer : LIEBHERR Motor : D 9408 TI Power KW : 400.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C Tolerance °C : +- 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 2.0
Tolerance bar : + 0.1

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

: 208.5 bar Tolerance bar : + 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 3.65
Tolerance mm : + 0.05 Check

tolerance mm : +- 0.10

Rack travel in mm : 10.50 Tolerance mm : +- 0.50

Firing order : 1-8-7-2-6

: - 3- 5- 4

Phasing : 0-45-90-135-180

: -225-270-315 : +- 0.50

Tolerance Check

tolerance °NW : +- 0.75

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 12.75 Tolerance mm : +- 0.05

Del. quantity

cm3/1000 strokes : 300.0

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance

cm3/1000s. : +- 4.0

Spreed

	+	Tolerance mm : +- 0.25
Tolerance cm3/1000 strokes	: 5.0	- - Rated speed rpm : 1320 - guide sleeve
Check tolerance cm3/1000s.	: 9.0	- travel mm : 13.50 - Tolerance mm : +- 0.50
Rated speed rpm	: 300	GUIDE SLEEVE POSITION
Rack travel in mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: +- 0.10 : 23.0 : +- 3.0	control lever position degree : - 1 Rated speed rpm : 1185 Rack travel in mm : 10.80 Tolerance mm : +- 2.70
Spreed Tolerance	: +- 6.0	FULL LOAD DELIVERY AT FULL LOAD STOP
cm3/1000 strokes Check tolerance cm3/1000s.	: 6.0	Rated speed rpm : 1050 Aneroid pressure hPa : 1600 Del. quantity
(B) SETTING OF IN. WITH GOVERNOR	JECTION PUMP	- cm3/1000 strokes : 300.0 - Tolerance - cm3/1000 strokes : +- 1.0 - Check tolerance - cm3/1000s. : +- 4.0
GUIDE SLEEVE TRAVE	EL	- cm3/1000s. : +- 4.0 - Spreed - Tolerance
Rated speed rpm guide sleeve travel mm Tolerance mm	: 1117 : 10.38 : +- 0.25	- cm3/1000 strokes : 5.0 - Check tolerance - cm3/1000s. : 9.0
Rated speed rpm guide sleeve travel mm Tolerance mm	: 300 : 1.69 : +- 0.25 : 746	- CONTROL LEVER - control lever - position degree : 119.0 - tolerance degree : +- 4.0
guide sleeve travel mm Tolerance mm	: 6.20 : ← 0.25	- - RATED SPEED - rack travel mm : 11.75 - Rated speed rpm : 1110
Rated speed rpm guide sleeve travel mm Tolerance mm	: 353 : 2.45 : + 0.25	Tolerance 1/min : + 5 rack travel mm : 4.00 Rated speed rpm : 1200 Tolerance 1/min : + 15
Rated speed rpm guide sleeve travel mm Tolerance mm	: 403 : 3.18 : + 0.25	Tolerance 1/min : + 15 rack travel mm : 0.50 Tolerance mm : + 0.50 Rated speed rpm : 1300
Rated speed rpm guide sleeve travel mm	: 450 : 3.66	- - - -

LOW IDLE	
control lever position degree tolerance degree	: 70.0 : ← 4.0
Setting point w/o	out bumper spring
Rated speed rpm	: 200
CRT mm min.	: > 6.60
Testing:	
Rated speed rpm rack travel mm Tolerance mm	: 300 : 5.10 : ← 0.10
Rated speed rpm	: 400
TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm	: 1050 : 12.75 : +- 0.05
Rated speed rpm rack travel mm Tolerance mm	: 500 : 10.50 : +- 0.10
Rated speed rpm rack travel mm Tolerance mm	: 550 : 10.50 : + 0.10
Rated speed rpm rack travel mm Tolerance mm	: 700 : 11.40 : +- 0.10
Rated speed rpm rack travel mm Tolerance mm	: 950 : 12.60 : + 0.15
ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 550 : 1600 : 10.50 : +- 0.10
Rated speed rpm Pressure hPa rack travel mm	: 550 : - : 9.15

Tolerance mm	: +- 0.20
MEASUREMENT	
Rated speed rpm	: 550
Pressure hPa rack travel mm Tolerance mm	: 675 : 10.35 : + 0.05
Pressure hPa rack travel mm Tolerance mm	: 575 : 9.75 : +- 0.15
FUEL DELIVERY CHA	ARACTERISTICS
Aneroid pressure hPa Rated speed rpm	: 1600 : 500
Del. quantity cm3/1000 strokes	: 298.0
Tolerance cm3/1000 strokes Check tolerance	:
cm3/1000s.	: +- 6.0
Aneroid pressure	· · · · · · · · · · · · · · · · · · ·
hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: 1600 : 700 : 299.0 : + 3.0 : + 6.0
Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000S. Aneroid pressure hPa	: 700 : 299.0 : ← 3.0 : ← 6.0
Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Aneroid pressure hPa Rated speed rpm Del. quantity	: 700 : 299.0 : + 3.0 : + 6.0
Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance	: 700 : 299.0 : + 3.0 : + 6.0 ∴ 550 : 242.5
Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: 700 : 299.0 : + 3.0 : + 6.0
Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes	: 700 : 299.0 : + 3.0 : + 6.0 : - : 550 : 242.5 : + 1.5
Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance	: 700 : 299.0 : → 3.0 : → 6.0 : 550 : 242.5 : → 1.5 : → 4.0

ravel mm :	9.15
nce mm : +-	0.30
	160.0
	10.0
00s. : +-	14.0
nce mm : +- uantity 00 strokes : nce 00 strokes : +- tolerance	9.15 0.30 160.0 10.0

LOW IDLE

300 Rated speed rpm : 5.10 Rack travel in mm : Tolerance mm 0.10 Del. quantity 23.0 cm3/1000 strokes : Tolerance 3.0 cm3/1000 strokes : +-Check tolerance cm3/1000s. 6.0 Spreed Tolerance 6.0 cm3/1000 strokes : Check tolerance cm3/1000s.10.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 24.06.97 Edition : ISO 4113 Test oil

Combination No. : 0 402 648 967A

Injection bumb

Pump designation : FE8P120A320LS7871 EP type number : 0 412 628 877

Governor

Governer design. : RQV300...1050PA1078

: -1K

: 0 421 815 361 Governer no.

Cust. part No. : 9275448

Customer-spec. information Customer : LIEBHERR : D 9408 TI Motor : 400.0 Power KW

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C Tolerance °C : +- 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : Tolerance bar : \leftarrow 0.1

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

: 208.5 bar Tolerance bar : +- 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter: 3.0 x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 3.65 Tolerance mm : + 0.05 Check tolerance mm : + 0.10

Rack travel in mm : 10.50 Tolerance mm : + 0.50

Firing order : 1-8-7-2-6 :-3-5-4

: 0-45-90-135-180 Phasing : -225-270-315

Tolerance : +- 0.50

Check

tolerance °NW : +- 0.75

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm: 12.75 Tolerance mm : \leftarrow 0.05

Del. quantity cm3/1000 strokes : 300.0

Tolerance

cm3/1000 strokes : ← 1.0

Check tolerance cm3/1000s.

: +- 4.0

Spreed

	† Tolerance mm : +- 0.25
Tolerance	†
cm3/1000 strokes : 5.0	+ Rated speed rpm : 1320
	+ guide sleeve
Check tolerance	travel mm : 13.50
cm3/1000s. : 9.0	Tolerance mm : +- 0.50
	+
	+
	+ GUIDE SLEEVE POSITION
Rated speed rpm : 300	+
	+
Rack travel in mm : 5.10	+ control lever
Tolerance mm : +- 0.10	+ position degree : -1
Del. quantity	+ Rated speed rpm : 1185
cm3/1000 strokes : 23.0	†
Tolerance	Rack travel in mm: 10.80
cm3/1000 strokes : $+$ 3.0	+ Tolerance mm : +- 2.70
Check tolerance	+
cm3/1000s. : +- 6.0	
Spreed	FULL LOAD DELIVERY AT FULL LOAD STOP
Tolerance	†
cm3/1000 strokes : 6.0	+ Rated speed rpm : 1050
Check tolerance	+ Aneroid pressure
cm3/1000s. : 10.0	+ hPa : 1600
	+ Del. quantity
	+ cm3/1000 strokes : 300.0
(B) SETTING OF INJECTION PUMP	+ Tolerance
K□TH GOVERNOR	+ cm3/1000 strokes : +- 1.0
	+ Check tolerance
CHARL OF CHILD TOWNER	+ cm3/1000s. : +- 4.0
GUIDE SLEEVE TRAVEL	+ Spreed
Rated speed rpm : 1117	+ Tolerance + cm3/1000 strokes : 5.0
	+ Check tolerance
guide sleeve travel mm : 10.38	1
Tolerance mm : +- 0.25	+ cm3/1000s. : 9.0
roterance inti	I
Rated speed rpm : 300	
guide sleeve	CONTROL LEVER
travel mm : 1.69	CONTROL LEVER
Tolerance mm : + 0.25	control lever
roter arise likit	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \
	+ position degree : 179.0
Rated speed rpm : 746	<pre>position degree : 119.0 tolerance degree : + 4.0</pre>
Rated speed rpm : 746	tolerance degree : + 4.0
guide sleeve	tolerance degree : + 4.0
guide sleeve travel mm : 6.20	tolerance degree : + 4.0 RATED SPEED
guide sleeve	tolerance degree : + 4.0 RATED SPEED rack travel mm : 11.75
guide sleeve travel mm : 6.20 Tolerance mm : + 0.25	tolerance degree : + 4.0 RATED SPEED rack travel mm : 11.75 Rated speed rpm : 1110
guide sleeve travel mm : 6.20 Tolerance mm : + 0.25 Rated speed rpm : 353	tolerance degree : + 4.0 RATED SPEED rack travel mm : 11.75 Rated speed rpm : 1110
guide sleeve travel mm : 6.20 Tolerance mm : + 0.25 Rated speed rpm : 353 guide sleeve	tolerance degree : + 4.0 RATED SPEED rack travel mm : 11.75 Rated speed rpm : 1110 Tolerance 1/min : +- 5
guide sleeve travel mm : 6.20 Tolerance mm : + 0.25 Rated speed rpm : 353 guide sleeve travel mm : 2.45	tolerance degree : + 4.0 RATED SPEED rack travel mm : 11.75 Rated speed rpm : 1110 Tolerance 1/min : +- 5
guide sleeve travel mm : 6.20 Tolerance mm : + 0.25 Rated speed rpm : 353 guide sleeve	tolerance degree : + 4.0 RATED SPEED rack travel mm : 11.75 Rated speed rpm : 1110 Tolerance 1/min : + 5 rack travel mm : 4.00
guide sleeve travel mm : 6.20 Tolerance mm : + 0.25 Rated speed rpm : 353 guide sleeve travel mm : 2.45 Tolerance mm : + 0.25	tolerance degree : + 4.0 RATED SPEED rack travel mm : 11.75 Rated speed rpm : 1110 Tolerance 1/min : + 5 rack travel mm : 4.00 Rated speed rpm : 1200
guide sleeve travel mm : 6.20 Tolerance mm : + 0.25 Rated speed rpm : 353 guide sleeve travel mm : 2.45 Tolerance mm : + 0.25 Rated speed rpm : 403	tolerance degree : + 4.0 RATED SPEED rack travel mm : 11.75 Rated speed rpm : 1110 Tolerance 1/min : + 5 rack travel mm : 4.00 Rated speed rpm : 1200
guide sleeve travel mm : 6.20 Tolerance mm : + 0.25 Rated speed rpm : 353 guide sleeve travel mm : 2.45 Tolerance mm : + 0.25 Rated speed rpm : 403 guide sleeve	tolerance degree : + 4.0 RATED SPEED rack travel mm : 11.75 Rated speed rpm : 1110 Tolerance 1/min : + 5 rack travel mm : 4.00 Rated speed rpm : 1200 Tolerance 1/min : + 15
guide sleeve travel mm : 6.20 Tolerance mm : + 0.25 Rated speed rpm : 353 guide sleeve travel mm : 2.45 Tolerance mm : + 0.25 Rated speed rpm : 403 guide sleeve travel mm : 3.18	tolerance degree : + 4.0 RATED SPEED rack travel mm : 11.75 Rated speed rpm : 1110 Tolerance 1/min : + 5 rack travel mm : 4.00 Rated speed rpm : 1200 Tolerance 1/min : + 15 rack travel mm : 0.50
guide sleeve travel mm : 6.20 Tolerance mm : + 0.25 Rated speed rpm : 353 guide sleeve travel mm : 2.45 Tolerance mm : + 0.25 Rated speed rpm : 403 guide sleeve travel mm : 3.18	tolerance degree : + 4.0 RATED SPEED rack travel mm : 11.75 Rated speed rpm : 1110 Tolerance 1/min : + 5 rack travel mm : 4.00 Rated speed rpm : 1200 Tolerance 1/min : + 15 rack travel mm : 0.50 Tolerance mm : + 0.50
guide sleeve travel mm : 6.20 Tolerance mm : 40.25 Rated speed rpm : 2.45 Tolerance mm : 403 guide sleeve travel mm : 403 guide sleeve travel mm : 3.18 Tolerance mm : 40.25	tolerance degree : + 4.0 RATED SPEED rack travel mm : 11.75 Rated speed rpm : 1110 Tolerance 1/min : + 5 rack travel mm : 4.00 Rated speed rpm : 1200 Tolerance 1/min : + 15 rack travel mm : 0.50 Tolerance mm : + 0.50
guide sleeve travel mm : 6.20 Tolerance mm : 40.25 Rated speed rpm : 2.45 Tolerance mm : 2.45 Tolerance mm : 403 guide sleeve travel mm : 403 guide sleeve travel mm : 3.18 Tolerance mm : 450	tolerance degree : + 4.0 RATED SPEED rack travel mm : 11.75 Rated speed rpm : 1110 Tolerance 1/min : + 5 rack travel mm : 4.00 Rated speed rpm : 1200 Tolerance 1/min : + 15 rack travel mm : 0.50 Tolerance mm : + 0.50
guide sleeve travel mm : 6.20 Tolerance mm : 40.25 Rated speed rpm : 2.45 Tolerance mm : 403 guide sleeve travel mm : 403 guide sleeve travel mm : 3.18 Tolerance mm : 40.25	tolerance degree : + 4.0 RATED SPEED rack travel mm : 11.75 Rated speed rpm : 1110 Tolerance 1/min : + 5 rack travel mm : 4.00 Rated speed rpm : 1200 Tolerance 1/min : + 15 rack travel mm : 0.50 Tolerance mm : + 0.50

LOW IDLE	
control lever position degree tolerance degree	: 70.0 : +- 4.0
Setting point w/d	out bumper spring
Rated speed rpm	: 200
CRT mm min.	: > 6.60
Testing:	
Rated speed rpm rack travel mm Tolerance mm	: 300 : 5.10 : + 0.10
Rated speed rpm	: 400
TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm	: 1050 : 12.75 : + 0.05
Rated speed rpm rack travel mm Tolerance mm	
Rated speed rpm rack travel mm Tolerance mm	: 550 : 10.50 : ← 0.10
Rated speed rpm rack travel mm Tolerance mm	: 700 : 11.40 : + 0.10
Rated speed rpm rack travel mm Tolerance mm	: 950 : 12.60 : + 0.15
ANEROID/ALTITUDE COMPENSATOR TEST	· · · · · · · · · · · · · · · · · · ·
SETTING	
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 550 : 1600 : 10.50 : +- 0.10
Rated speed rpm Pressure hPa rack travel mm	: 550 : - : 9.15

Tolerance mm	: +- 0.20		
MEASUREMENT			
Rated speed rpm	: 550		
Pressure hPa rack travel mm Tolerance mm	: 675 : 10.35 : +- 0.05		
Pressure hPa rack travel mm Tolerance mm	: 575 : 9.75 : + 0.15		
FUEL DELIVERY CHA	RACTERISTICS		
Aneroid pressure hPa Rated speed rpm	: 1600 : 500		
Del. quantity cm3/1000 strokes	: 298.0		
Tolerance cm3/1000 strokes Check tolerance	: +- 3.0		
cm3/1000s.	: +- 6.0		
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: 1600 : 700 : 299.0 : + 3.0 : + 6.0		
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: - : 550 : 242.5 : + 1.5 : + 4.0 : 8.0 : 12.0		
STARTING FUEL DELIVERY			

Pressure hPa : - rack travel mm : 9.15

Rated speed rpm	:		100
rack travel mm	:		9.15
Tolerance mm	:	+-	0.30
Del. quantity			
cm3/1000 strokes	:		160.0
Tolerance			
cm3/1000 strokes	:	+-	10.0
Check tolerance			
cm3/1000s.	•	+-	14.0

LOW IDLE

Rated speed rpm	:	300	
Rack travel in mm Tolerance mm Del. quantity	: +-	5.10 0.10	
cm3/1000 strokes Tolerance	:	23.0	
cm3/1000 strokes Check tolerance	: +-	3.0	
cm3/1000s. Spreed	: +-	6.0	
Tolerance cm3/1000 strokes	:	6.0	
Check tolerance cm3/1000s.	:	10.0	

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 23.06.97 Test oil : ISO 4113

Combination No. : 0 402 670 809

Injection pump

Pump designation : PE12P12OA32OLS7807

: -5

EP type number : 0 412 620 812

Governor

Governer design. : RSV375...950P0A535

: -5

Governer no. : 0 421 833 374

Cust. part No. : 022 074 8002

Customer-spec. information
Customer : MB-NFZ
Motor : OM 444 LA

Power KW : 493.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40 Tolerance °C : +- 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Overflow quantity

min. l/h : 160 Tolerance l/h : + 10.0

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar : 208.5 Tolerance bar : + 1.5 Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm : 5.25
Tolerance mm : + 0.05

Check

tolerance mm : + 0.10

Rack travel in mm : 20.50 Tolerance mm : + 0.50

Firing order : 12-1-5-9-8

: - 3- 4- 11- 10 : - 2- 6- 7

Phasing : 0-45-60-105-120

: -165-180-225-240 : -285-300-345

Tolerance : + 0.50

Check

tolerance *NW : + 0.75

Start of delivery mark

Tolerance : +- 0.10

Check

tolerance "NW : +- 0.75

Barrel no. : 12

BASIC SETTING

Rated speed rpm : 950

. 30

	+ Aneroid pressure
Rack travel in mm : 15.60 Tolerance mm : +- 0.10	+ hPa : 1000 - Del. quantity
Del. quantity	cm3/1000 strokes : 234.0 Tolerance
cm3/1000 strokes : 234.0	cm3/1000 strokes : + 1.0 Check tolerance
Tolerance cm3/1000 strokes : +- 1.0	cm3/1000s. : +- 4.0 Spreed Tolerance
Check tolerance cm3/1000s. : +- 4.0	cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 10.0
Spreed	1 (1137 10003
Tolerance cm3/1000 strokes : 6.0	CONTROL LEVER
Check tolerance : 10.0	control lever position degree : 78.0 tolerance degree : +- 4.0
Rated speed rpm : 375	RATED SPEED rack travel mm : 14.60 Rated speed rpm : 995
Rack travel in mm : 6.35 Tolerance mm : +- 0.15	Tolerance 1/min : +- 5
Del. quantity - cm3/1000 strokes : 17.0 - Tolerance -	rack travel mm : 4.00 Rated speed rpm : 1075 Tolerance 1/min : +- 5
<pre>cm3/1000 strokes : +- 3.0 Check tolerance cm3/1000s. : +- 6.0</pre>	+ rack travel mm : 1.00 + Tolerance mm : +- 0.70
Spreed - Tolerance -	Rated speed rpm : 1200
<pre>cm3/1000 strokes : 8.0 - Check tolerance - cm3/1000s. : 12.0 -</pre>	
-	LOW IDLE
(B) SETTING OF INJECTION PUMP - WITH GOVERNOR -	control lever position degree : 68.0
	tolerance degree : +- 4.0
GUIDE SLEEVE POSITION	Setting point w/out bumper spring
control lever	Rated speed rpm : 100
position degree : - 3 Rated speed rpm : 800	CRT mm min. : > 13.00
Rack travel in mm: 0.85	Testing: Rated speed rpm : 375
Tolerance mm : +- 0.55	Rated speed rpm : 375 rack travel mm : 6.35 Tolerance mm : + 0.15
FULL LOAD DELIVERY AT FULL LOAD STOP	SET IDLE AUXILIARY SPRING
Rated speed rpm : 950	rack travel mm : 2.00
	•

		†
TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm	: 950 : 15.60 : +- 0.10	· +
Rated speed rpm rack travel mm Tolerance mm	: 600 : 15.60 : ← 0.10	† † † †
ANEROID/ALTITUDE COMPENSATOR TEST		· +
SETTING		+
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 500 : 1000 : 15.60 : ← 0.10	+
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 500 : - : 11.00 : +- 0.10	+++++++++++++++++++++++++++++++++++++++
MEASUREMENT		Ŧ
Rated speed rpm	: 500	Ŧ
Pressure hPa rack travel mm Tolerance mm	: 300 : 11.70 : + 0.05	+
Pressure hPa rack travel mm Tolerance mm	: 500 : 13.80 : + 0.10	I
FUEL DELIVERY CHA	RACTERISTICS	+
Aneroid pressure hPa Rated speed rpm Del. quantity	: 1000 : 600	+
cm3/1000 strokes Tolerance	: 246.0	‡
cm3/1000 strokes Check tolerance cm3/1000s.	: + 1.5 : + 4.5	+++++++++++++++++++++++++++++++++++++++
Spreed Tolerance	0.0	Ŧ
cm3/1000 strokes	: 8.0	+

Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: +-	500 137.0 1.0 4.0 8.0 12.0	
STARTING FUEL DEL	 IVERY		
Rated speed rpm	:	100	
Del. quantity			
cm3/1000 strokes Tolerance	•	230.0	
cm3/1000 strokes	: +-	10.0	
Check tolerance cm3/1000s.	: +-	14.0	
LOW IDLE			
Rated speed rpm	:	375	
Rack travel in mm Tolerance mm	: +-	6.35 0.15	
Del. quantity cm3/1000 strokes	:	17.0	
Tolerance cm3/1000 strokes	: +-	3.0	
Check tolerance cm3/1000s.	: +-	6.0	
Spreed Tolerance		_	
cm3/1000 strokes	:	8.0	

End of test specification sheet

Check tolerance cm3/1000s. : 12.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 19.06.97 Edition : 19.06.97 : ISO 4113 Test oil

Combination No. : 0 402 676 819

Injection pump

Pump designation : PE6P12OA32ORS7327 EP type number : 0 412 626 916

Governor

Governer design. : RSV275...1150P5A580

Governer no. : 0 421 833 436

Cust. part No. : 1241744/0

Customer-spec. information

Customer : DAF

: RS 200 L AG Motor Power KW : 200.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C 40 Tolerance °C

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5 Tolerance bar : +- 0.1

Overflow quantity

min. l/h : 160 Tolerance l/h : +- 10.0

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

bar : 208.5 Tolerance bar : +- 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter: 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : Tolerance bar : +- 1.0

Prestroke mm : 5.25 Tolerance mm : +- 0.05

Check

tolerance mm : + 0.10

Rack travel in mm: 11.40

Tolerance mm : +- 0.50

Firing order : 1-5-3-6-2-

: 4

: 0-60-120-180-240 Phasing

: -300

Tolerance : +- 0.50

Check

tolerance °NW : +- 0.75

Start of delivery mark

Tolerance : \leftarrow 0.50

Check

tolerance °NW : + 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm: 11.35 Tolerance mm: + 0.05	FULL LOAD DELIVERY AT FULL LOAD STOP
Del. quantity cm3/1000 strokes : 167.0	Rated speed rpm : 1000 Aneroid pressure hPa : -
Tolerance cm3/1000 strokes : + 1.0	Del. quantity cm3/1000 strokes : 167.0 Tolerance
Check tolerance cm3/1000s. : + 4.0	cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0
Spreed	Spreed Tolerance
Tolerance cm3/1000 strokes : 5.0	cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 9.0
Check tolerance cm3/1000s. 9.0	
	CONTROL LEVER
Rated speed rpm : 275	control lever position degree : 113.0
Rack travel in mm: 4.70 Tolerance mm: + 0.10	tolerance degree : +- 4.0
Del. quantity cm3/1000 strokes : 16.0 Tolerance	RATED SPEED rack travel mm : 10.35 Rated speed rpm : 1182
cm3/1000 strokes : + 3.0 Check tolerance	Tolerance 1/min : +- 8
cm3/1000s. : +- 6.0 +- Spreed +- Tolerance +-	rack travel mm : 4.00 Rated speed rpm : 1275 Tolerance 1/min : +- 15
cm3/1000 strokes : 8.0 + Check tolerance	rack travel mm : 0.85
cm3/1000s. : 12.0	Tolerance mm : +- 0.55 Rated speed rpm : 1500
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	rack travel mm : 4.00 Rated speed rpm : 1285 Tolerance 1/min : + 15
GUIDE SLEEVE POSITION	
control lever	LOW IDLE
position degree : -3 Rated speed rpm : 800	control lever position degree : 80.0
Rack travel in mm: 0.50 Tolerance mm: + 0.20	tolerance degree : +- 4.0 Setting point w/out bumper spring
governor spring pre-tension click setting x : 6.00	Rated speed rpm : 275 rack travel mm : 4.20
teren secting A . O.O.	Tolerance mm : + 0.10

Testing:

Rated speed rpm : 275 4.70 Tolerance mm : + 0.10

2.00 rack travel mm Rated speed rpm : : +- 30 Tolerance 1/min

TORQUE CONTROL

1000 Rated speed rpm 11.35 rack travel mm : : +- 0.05 Tolerance mm

Rated speed rpm : 1150 rack travel mm : 11.35 Tolerance mm : ← 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

600 Rated speed rpm : 1000 Pressure hPa 11.35 rack travel mm Tolerance mm : +- 0.05

600 Rated speed rpm Pressure hPa 9.10 rack travel mm : + - 0.10Tolerance mm

MEASUREMENT

600 Rated speed rpm

340 Pressure hPa rack travel mm 10.75 Tolerance mm : +- 0.05

200 Pressure hPa 9.70 rack travel mm : + - 0.10Tolerance mm

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa Rated speed rpm : 600

Del. quantity cm3/1000 strokes : 117.0 Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance

cm3/1000s. : +- 4.0

LOW IDLE

275 Rated speed rpm :

Rack travel in mm : 4.70 Tolerance mm : \leftarrow 0.10

Del. quantity

cm3/1000 strokes : 16.0 Tolerance

cm3/1000 strokes : +- 3.0

Check tolerance 6.0

cm3/1000s. Spreed

Tolerance cm3/1000 strokes : 8.0

Check tolerance

cm3/1000s. 12.0

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 24.06.97 Test oil : ISO 4113

Combination No. : 0 402 676 8230

Injection pump

Pump designation : PE6P12OA32OLS7885-1 EP type number : 0 412 626 948

Governor

Governer design. : RSV400...1000P1A589

Governer no. : 0 421 833 449

Cust. part No. : 9881286

Customer—spec. information Customer : LIEBHERR

Motor : D 9406 TI-E A3

Power KW : 258.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40
Tolerance °C : +- 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5 Tolerance bar : + 0.1

Tolerance l/h: \leftarrow 10.0

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter: 3.0

x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 4.55 Tolerance mm : + 0.05

Check

tolerance mm : \leftarrow 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-6-3-5-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : \leftarrow 0.50

Check

tolerance $^{\circ}NW$: \leftarrow 0.75

BASIC SETTING

Rated speed rpm : 900

Rack travel in mm : 13.75

Tolerance mm : +- 0.05

Del. quantity

cm3/1000 strokes : 265.0

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance cm3/1000s.	: + 4.0	
	+	CONTROL LEVER
Spreed	‡	control lever
Tolerance cm3/1000 strokes	: 5.0	position degree : 106.0 tolerance degree : +- 4.0
Check tolerance cm3/1000s.	: 9.0	RATED SPEED rack travel mm : 12.75 Rated speed rpm : 935 Tolerance 1/min : +- 5
Rated speed rpm	: 400	rack travel mm : 4.00 Rated speed rpm : 1010
Rack travel in mm Tolerance mm		Tolerance 1/min : +- 15
Del. quantity cm3/1000 strokes Tolerance	: 26.0	rack travel mm : 0.85 Tolerance mm : +- 0.55 Rated speed rpm : 1200
cm3/1000 strokes Check tolerance	+	rack travel mm : 4.00
cm3/1000S. Spreed Tolerance	: + 6.0	Rated speed rpm : 1030 Tolerance 1/min : +- 15
cm3/1000 strokes	: 6.0	
Check tolerance cm3/1000s.	: 10.0	
	+	LOW IDLE
(B) SETTING OF IN- WITH GOVERNOR	JECTION PUMP	control lever position degree : 83.0 tolerance degree : +- 4.0
GUIDE SLEEVE POSI	TION	Setting point w/out bumper spring
control lever position degree	: - 3	Rated speed rpm : 400 rack travel mm : 3.50 Tolerance mm : +- 0.10
FULL LOAD DELIVER	Y AT FULL LOAD STOP	Testing:
Rated speed rpm Aneroid pressure hPa	: 900 : 1400	Rated speed rpm : 400 rack travel mm : 5.00 Tolerance mm : +- 0.10
Del. quantity cm3/1000 strokes Tolerance	+	TORQUE CONTROL Rated speed rpm : 900
cm3/1000 strokes Check tolerance cm3/1000S.	: + 1.0	rack travel mm : 13.75 Tolerance mm : + 0.05
Spreed Tolerance	+	Rated speed rpm : 500 rack travel mm : 13.75
cm3/1000 strokes Check tolerance	+	Tolerance mm : +- 0.10
cm3/1000S.	: 9.0	Rated speed rpm : 700 rack travel mm : 13.75 Tolerance mm : + 0.30

		Del. quantity	:
ANEROID/ALTITUDE COMPENSATOR TEST		Tolerance cm3/1000 strokes	•
		- Check tolerance cm3/1000s.	
SETTING		Spreed	• 7
Rated speed rpm	: 500	+ Tolerance + cm3/1000 strokes	
Pressure hPa rack travel mm Tolerance mm	: 1400 : 13.75 : ← 0.10	Check tolerance cm3/1000s.	:
Rated speed rpm	: 500		
Pressure hPa rack travel mm	: 11.90	+ STARTING FUEL DELI	VEF
Tolerance mm	: +- 0.10	+ Rated speed rpm + rack travel mm	:
MEASUREMENT		+ Tolerance mm	: 4
	. 500	+ Del. quantity + cm3/1000 strokes	
ated speed rpm	: 500	Tolerance	:
ressure hPa	: 870	+ cm3/1000 strokes	: 4
ack travel mm olerance mm	: 13.40 : +- 0.05	+ Check tolerance cm3/1000s.	: +
ressure hPa	: 740	‡	
ick travel mm	: 12.50 : + 0.10	†	
olerance mm	: +- 0.10	LOW IDLE	
FUEL NELTUENY CHA	DACTEDICTICS		:
FUEL DELIVERY CHA	KACIEKISIICS	Rack travel in mm	:
		Tolerance mm	: +
neroid pressure Pa	: 1400	+ Del. quantity + cm3/1000 strokes	:
ated speed rpm	500	Tolerance	•
el. quantity	. 200.0	cm3/1000 strokes	: +
m3/1000 strokes olerance	: 280.0	+ Check tolerance + cm3/1000s.	: +
m3/1000 strokes	: +- 3.0	Spreed	
eck tolerance	: +- 6.0	Tolerance cm3/1000 strokes	
n3/1000s.	0.0	Check tolerance cm3/1000s.	•
neroid pressure		1	-
Pa	: 1400 : 700	<u>†</u>	
ated speed rpm el. quantity	. /00	Į	
m3/1000 strokes	: 272.0	+	
olerance m3/1000 strokes	: +- 3.0	+ End of test specif	nca
heck tolerance		+	
m3/1000s.	: + 6.0	‡	
neroid pressure		+	
Pa		†	
Rated speed rpm	: 500	†	

Del. quantity cm3/1000 strokes	: 230.0
Tolerance	
cm3/1000 strokes Check tolerance	: +- 1.0
cm3/1000s.	: +- 4.0
Spreed	
Tolerance cm3/1000 strokes	: 8.0
Check tolerance	. 0.0
cm3/1000s.	: 12.0
STARTING FUEL DEL	IVERY
Rated speed rpm	: 100
rack travel mm	: 20.50
Tolerance mm	: ← 0.50
Del. quantity cm3/1000 strokes	: 220.0
Tolerance	
cm3/1000 strokes Check tolerance	: ← 10.0
cm3/1000s.	: +- 14.0
LOW IDLE	
Rated speed rpm	: 400
Rack travel in mm	: 5.00
Rack travel in mm Tolerance mm	
Rack travel in mm Tolerance mm Del. quantity	: 5.00 : +- 0.10
Rack travel in mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance	: 5.00 : +- 0.10 : 26.0
Rack travel in mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes	: 5.00 : +- 0.10
Rack travel in mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance	: 5.00 : +- 0.10 : 26.0
Rack travel in mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed	: 5.00 : +- 0.10 : 26.0 : +- 3.0
Rack travel in mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance	: 5.00 : + 0.10 : 26.0 : + 3.0 : + 6.0
Rack travel in mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes	: 5.00 : + 0.10 : 26.0 : + 3.0 : + 6.0
Rack travel in mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance	: 5.00 : + 0.10 : 26.0 : + 3.0 : + 6.0
Rack travel in mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance	: 5.00 : + 0.10 : 26.0 : + 3.0 : + 6.0
Rack travel in mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance	: 5.00 : + 0.10 : 26.0 : + 3.0 : + 6.0
Rack travel in mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance	: 5.00 : + 0.10 : 26.0 : + 3.0 : + 6.0
Rack travel in mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance	: 5.00 : + 0.10 : 26.0 : + 3.0 : + 6.0 : 6.0 : 10.0
Rack travel in mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000s.	: 5.00 : + 0.10 : 26.0 : + 3.0 : + 6.0 : 6.0 : 10.0
Rack travel in mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000s.	: 5.00 : + 0.10 : 26.0 : + 3.0 : + 6.0 : 6.0 : 10.0
Rack travel in mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000s.	: 5.00 : + 0.10 : 26.0 : + 3.0 : + 6.0 : 6.0 : 10.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 17.06.97 Test oil : ISO 4113

Combination No. : 0 402 673 831

Injection pump

Pump designation : PE8P120A320LS7901 EP type number : 0 412 628 918

Governor

Governer design. : RSV350...1050P0A651

Governer no. : 0 421 833 568

Cust. part No. : 0270745602

Customer-spec. information Customer : MB-NFZ Motor : OM442LA Power KW : 297.0 : OM442LA : 297.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

: 40 temp. °C Tolerance °C : +- 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5 Tolerance bar : + 0.1

Overflow quantity

min. L/h : 110 Toterance L/h : + 10.0

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure : 208.5 Tolerance bar : + 1.5 Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter: 3.0 x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 5.25 Tolerance mm : + 0.05

Check

tolerance mm : + 0.10

Rack travel in mm : 20.50 Tolerance mm : \leftarrow 0.50

Firing order : 8-7-2-6-3 :-5-4-1

: 0-45-90-135-180 Phasing

: -225-270-315

: **←** 0.50 Tolerance

Check

tolerance *NW : +- 0.75

BASIC SETTING

Rated speed rpm : 1030

Rack travel in mm: 13.40

Tolerance mm : \leftarrow 0.05

Del. quantity

cm3/1000 strokes : 210.0

Tolerance -	+ Spreed
$cm3/1000$ strokes : \leftarrow 1.5	 Tolerance
	cm3/1000 strokes : 5.0
Check tolerance	Check tolerance
cm3/1000s. : +- 4.5	cm3/1000s. : 9.0
(IIID/1000) 4.5	T (11137 10003 7.0
	†
Spreed -	†
•	
Tolerance -	+ CONTROL LEVER
cm3/1000 strokes : 5.0	1
	control lever
Check tolerance	position degree : 94.0
cm3/1000s. : 9.0	tolerance degree : +- 4.0
	†
•	+ RATED SPEED
•	rack travel mm : 12.40
Rated speed rpm : 350 -	Rated speed rpm : 1075
•	Tolerance 1/min : +- 5
Rack travel in mm: 5.30	1
Tolerance mm : + 0.10	rack travel mm : 4.00
Del. quantity -	Rated speed rpm : 1150
cm3/1000 strokes : 19.0 -	Tolerance 1/min : +- 5
Tolerance -	†
cm3/1000 strokes : +- 3.0 -	rack travel mm : 0.85
Check tolerance -	Tolerance mm : +- 0.55
cm3/1000s. : +- 6.0	Rated speed rpm : 1400
Spreed -	L Wassa speed vp
Tolerance -	T
cm3/1000 strokes : 8.0	
Check tolerance -	
cm3/1000s. : 12.0 -	LOW IDLE
	LOW IDLE
	LOW IDLE
cm3/1000s. : 12.0 -	LOW IDLE control lever
cm3/1000s. : 12.0 - (B) SETTING OF INJECTION PUMP -	control lever
cm3/1000s. : 12.0 -	control lever position degree : 70.0
cm3/1000s. : 12.0 - (B) SETTING OF INJECTION PUMP -	control lever
cm3/1000s. : 12.0 - (B) SETTING OF INJECTION PUMP -	control lever position degree : 70.0 tolerance degree : +- 4.0
cm3/1000s. : 12.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR	control lever position degree : 70.0
cm3/1000s. : 12.0 - (B) SETTING OF INJECTION PUMP -	control lever position degree : 70.0 tolerance degree : +- 4.0 Setting point w/out bumper spring
cm3/1000s. : 12.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR	control lever position degree : 70.0 tolerance degree : +- 4.0
cm3/1000s. : 12.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR	control lever position degree : 70.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 100
cm3/1000s. : 12.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE POSITION	control lever position degree : 70.0 tolerance degree : +- 4.0 Setting point w/out bumper spring
cm3/1000s. : 12.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE POSITION control lever	control lever position degree : 70.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 100
cm3/1000s. : 12.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE POSITION	control lever position degree : 70.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 100 CRT mm min. : > 19.50
cm3/1000s. : 12.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE POSITION control lever position degree : - 3	control lever position degree : 70.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 100
cm3/1000s. : 12.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE POSITION control lever position degree : - 3 governor spring	control lever position degree : 70.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 100 CRT mm min. :> 19.50 Testing:
cm3/1000s. : 12.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE POSITION control lever position degree : - 3 governor spring pre-tension	control lever position degree : 70.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 100 CRT mm min. :> 19.50 Testing: Rated speed rpm : 350
cm3/1000s. : 12.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE POSITION control lever position degree : - 3 governor spring	control lever position degree : 70.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 100 CRT mm min. :> 19.50 Testing: Rated speed rpm : 350 rack travel mm : 5.30
cm3/1000s. : 12.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE POSITION control lever position degree : - 3 governor spring pre-tension	control lever position degree : 70.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 100 CRT mm min. :> 19.50 Testing: Rated speed rpm : 350
cm3/1000s. : 12.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE POSITION control lever position degree : - 3 governor spring pre-tension	control lever position degree : 70.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 100 CRT mm min. :> 19.50 Testing: Rated speed rpm : 350 rack travel mm : 5.30
cm3/1000s. : 12.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE POSITION control lever position degree : - 3 governor spring pre-tension click setting x : 3.50	control lever position degree : 70.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 100 CRT mm min. :> 19.50 Testing: Rated speed rpm : 350 rack travel mm : 5.30
cm3/1000s. : 12.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE POSITION control lever position degree : - 3 governor spring pre-tension	control lever position degree : 70.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 100 CRT mm min. :> 19.50 Testing: Rated speed rpm : 350 rack travel mm : 5.30 Tolerance mm : + 0.10 rack travel mm : 2.00
Cm3/1000s. : 12.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE POSITION control lever position degree : - 3 governor spring pre-tension click setting x : 3.50 FULL LOAD DELIVERY AT FULL LOAD STOP	control lever position degree : 70.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 100 CRT mm min. :> 19.50 Testing: Rated speed rpm : 350 rack travel mm : 5.30 Tolerance mm : + 0.10 rack travel mm : 2.00 Rated speed rpm : 400
cm3/1000s. : 12.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE POSITION control lever position degree : - 3 governor spring pre-tension click setting x : 3.50 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1030	control lever position degree : 70.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 100 CRT mm min. :> 19.50 Testing: Rated speed rpm : 350 rack travel mm : 5.30 Tolerance mm : + 0.10 rack travel mm : 2.00
Cm3/1000s. : 12.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE POSITION control lever position degree : - 3 governor spring pre-tension click setting x : 3.50 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1030 Aneroid pressure	control lever position degree : 70.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 100 CRT mm min. :> 19.50 Testing: Rated speed rpm : 350 rack travel mm : 5.30 Tolerance mm : + 0.10 rack travel mm : 2.00 Rated speed rpm : 400 Tolerance 1/min : + 30
Cm3/1000S. : 12.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE POSITION control lever position degree : - 3 governor spring pre-tension click setting x : 3.50 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1030 Aneroid pressure hPa : 1200	control lever position degree : 70.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 100 CRT mm min. :> 19.50 Testing: Rated speed rpm : 350 rack travel mm : 5.30 Tolerance mm : + 0.10 rack travel mm : 2.00 Rated speed rpm : 400
Cm3/1000S. : 12.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE POSITION control lever position degree : - 3 governor spring pre-tension click setting x : 3.50 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1030 Aneroid pressure hPa : 1200 Del. quantity	control lever position degree : 70.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 100 CRT mm min. :> 19.50 Testing: Rated speed rpm : 350 rack travel mm : 5.30 Tolerance mm : + 0.10 rack travel mm : 2.00 Rated speed rpm : 400 Tolerance 1/min : + 30 SET IDLE AUXILIARY SPRING
Cm3/1000S. : 12.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE POSITION control lever position degree : - 3 governor spring pre-tension click setting x : 3.50 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1030 Aneroid pressure hPa : 1200	control lever position degree : 70.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 100 CRT mm min. :> 19.50 Testing: Rated speed rpm : 350 rack travel mm : 5.30 Tolerance mm : + 0.10 rack travel mm : 2.00 Rated speed rpm : 400 Tolerance 1/min : + 30
Cm3/1000S. : 12.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE POSITION control lever position degree : - 3 governor spring pre-tension click setting x : 3.50 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1030 Aneroid pressure hPa : 1200 Del. quantity	control lever position degree : 70.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 100 CRT mm min. :> 19.50 Testing: Rated speed rpm : 350 rack travel mm : 5.30 Tolerance mm : + 0.10 rack travel mm : 2.00 Rated speed rpm : 400 Tolerance 1/min : + 30 SET IDLE AUXILIARY SPRING
Cm3/1000s. : 12.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE POSITION control lever position degree : - 3 governor spring pre-tension click setting x : 3.50 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1030 Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 210.0 Tolerance	control lever position degree : 70.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 100 CRT mm min. :> 19.50 Testing: Rated speed rpm : 350 rack travel mm : 5.30 Tolerance mm : + 0.10 rack travel mm : 2.00 Rated speed rpm : 400 Tolerance 1/min : + 30 SET IDLE AUXILIARY SPRING
Cm3/1000s. : 12.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE POSITION control lever position degree : - 3 governor spring pre-tension click setting x : 3.50 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1030 Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 210.0 Tolerance cm3/1000 strokes : +- 1.5	control lever position degree : 70.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 100 CRT mm min. :> 19.50 Testing: Rated speed rpm : 350 rack travel mm : 5.30 Tolerance mm : + 0.10 rack travel mm : 2.00 Rated speed rpm : 400 Tolerance 1/min : + 30 SET IDLE AUXILIARY SPRING rack travel mm : 2.00
Cm3/1000s. : 12.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE POSITION control lever position degree : - 3 governor spring pre-tension click setting x : 3.50 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1030 Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 210.0 Tolerance	control lever position degree : 70.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 100 CRT mm min. :> 19.50 Testing: Rated speed rpm : 350 rack travel mm : 5.30 Tolerance mm : + 0.10 rack travel mm : 2.00 Rated speed rpm : 400 Tolerance 1/min : + 30 SET IDLE AUXILIARY SPRING

rack travel mm Tolerance mm	: 13.40 : +- 0.05	<u>†</u>
Rated speed rpm rack travel mm Tolerance mm	: 600 : 13.70 : + 0.10	
ANEROID/ALTITUDE COMPENSATOR TEST		Ţ Ţ
SETTING		<u> </u>
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 500 : 1200 : 13.70 : +- 0.10	1
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 500 : - : 9.35 : + 0.15	++
MEASUREMENT		1
Rated speed rpm	: 500	‡
Pressure hPa rack travel mm Tolerance mm	: 250 : 9.70 : + 0.15	<u> </u>
Pressure hPa rack travel mm Tolerance mm	: 500 : 11.70 : + 0.15	+++++
FUEL DELIVERY CHA	RACTERISTICS	†
Aneroid pressure	4000	+
hPa Rated speed rpm Del. quantity	: 1200 : 600	Ī
cm3/1000 strokes Tolerance	: 221.0	Ī
cm3/1000 strokes Check tolerance	: +- 1.5	<u> </u>
cm3/1000S. Spreed Tolerance	: +- 4.5	+
cm3/1000 strokes Check tolerance	: 8.0	‡
cm3/1000s.	: 12.0	†
Aneroid pressure	•	Ì
nra Rated speed rpm	500	Ţ

Del. quantity cm3/1000 strokes	: 143.0
Tolerance cm3/1000 strokes	: + 1.0
Check tolerance cm3/1000s.	: +- 4.0
Spreed Tolerance	
cm3/1000 strokes	: 8.0
STARTING FUEL DEL	IVERY
Rated speed rpm Del. quantity	: 100
cm3/1000 strokes Tolerance	: 240.0
cm3/1000 strokes Check tolerance	: + 15.0
cm3/1000s.	: +- 19.0
LOU TO F	
LOW IDLE	
Rated speed rpm	: 350
Rack travel in mm Tolerance mm	: 5.30 : + 0.10
Del. quantity cm3/1000 strokes	
Tolerance cm3/1000 strokes	
Check tolerance	
cm3/1000s. Spreed	: +- 6.0
Tolerance	
cm3/1000 strokes	: 8.0
	: 8.0 : 12.0
cm3/1000 strokes Check tolerance	
cm3/1000 strokes Check tolerance	

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 24.06.97 Test oil : ISO 4113

Combination No. : 0 402 678 836

Injection pump

Pump designation : PE8P120A320LS7844 EP type number : 0 412 628 860

Governor

Governer design. : RSV550...1050P0A672

Governer no. : 0 421 833 591

Cust. part No. : 0270746402

Customer-spec. information Customer : MB-NFZ Motor : OM442LA Power KW : 370.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 2.0
Tolerance bar : +- 0.1

Overflow quantity min. L/h : 225
Tolerance L/h : +- 20.0

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

: 208.5 bar Tolerance bar : + 1.5 Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0

x Length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm : 5.05 Tolerance mm : + 0.05

Check

tolerance mm : + 0.10

Rack travel in mm : 20.00 Tolerance mm : + 1.00

Firing order : 8-7-2-6-3 :-5-4-1

: 0-45-90-135-180 Phasing

: -225-270-315 Tolerance : +- 0.50

Check

tolerance °NW : + 0.75

Start of delivery mark

Tolerance : \leftarrow 0.10

Check

tolerance "NW : +- 0.75

Barrel no. : 8

BASIC SETTING

Rated speed rpm : 1050

	1	
Rack travel in mm Tolerance mm	: 15.60 : + 0.05	FULL LOAD DELIVERY AT FULL LOAD STOP
Del. quantity cm3/1000 strokes	: 270.0	Rated speed rpm : 1050 Aneroid pressure hPa : 1200
Tolerance cm3/1000 strokes	: +- 1.0	Del. quantity cm3/1000 strokes : 270.0 Tolerance
Check tolerance cm3/1000s.	: + 4.0	cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0
Spreed		Spreed Tolerance
Tolerance cm3/1000 strokes	: 5.0	cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 9.0
Check tolerance cm3/1000s.	: 9.0	
		CONTROL LEVER
Rated speed rpm	: 550	control lever position degree : 88.0
Rack travel in mm Tolerance mm Del. quantity	: ← 4.00 : ← 0.10	tolerance degree : +- 4.0
cm3/1000 strokes Tolerance	: 19.0	ASSEMBLY GOVERNOR SETTING
cm3/1000 strokes Check tolerance	: + 3.0	Rated speed rpm : 1070 Tolerance 1/min : +- 1
cm3/1000s. Spreed	: + 6.0	rack travel mm : 14.60
Tolerance cm3/1000 strokes	: 8.0	Rated speed rpm : 1110 Tolerance 1/min : + 4
Check tolerance cm3/1000s.	: 12.0	rack travel mm : 4.00
(B) SETTING OF INJ WITH GOVERNOR	ECTION PUMP	rack travel mm : 0.85 Tolerance mm : + 0.55 Rated speed rpm : 1200
WITH GOVERNOR	1	Rated speed rpm : 1071
GUIDE SLEEVE POSIT	TION	Tolerance 1/min : + 1 rack travel mm : 14.60
control lever position degree Rated speed rpm	: - 3 : 800	Rated speed rpm : 1111 Tolerance 1/min : + 4 rack travel mm : 4.00
Rack travel in mm Tolerance mm	: 0.50	rack travel mm : 0.85 Tolerance mm : +- 0.55 Rated speed rpm : 1200
governor spring	‡	
pre-tension click setting x	: 2.00	Rated speed rpm : 1072 Tolerance 1/min : + 1 rack travel mm : 14.60
	т	

Rated speed rpm Tolerance 1/min		† Testing:
rack travel mm		Rated speed rpm : 550
rack travel mm	: 0.85	rack travel mm : 4.00 Tolerance mm : + 0.10
Tolerance mm Rated speed rpm	: + 0.55 : 1200	rack travel mm : 2.00
nated speed ipin	. 1200	+ Rated speed rpm : 570
Rated speed rpm	: 1073	Tolerance 1/min : +- 30
Tolerance 1/min rack travel mm	: + 1 : 14.60	SET IDLE AUXILIARY SPRING
		rack travel mm : 2.00
Rated speed rpm Tolerance 1/min	: +- 4	Ţ
rack travel mm	: 4.00	+ TORQUE CONTROL + Rated speed rpm : 1050
rack travel mm	: 0.85	rack travel mm : 15.60
Tolerance (%) Rated speed rpm	: +- 0.55 : 1200	+ Tolerance mm : + 0.05
		Rated speed rpm : 600 rack travel mm : 15.60
Rated speed rpm		+ Tolerance mm : + 0.10
Tolerance 1/min rack travel mm	: ← 1 : 14.60	<u> </u>
		ANEROID/ALTITUDE
Rated speed rpm Tolerance 1/min		+ COMPENSATOR TEST
rack travel mm	: 4.00	SETTING
rack travel mm	: 0.85	+
Tolerance mm Rated speed rpm	: + 0.55 : 1200	+ Rated speed rpm : 450 + Pressure hPa : 1200
Nated opeca ipii	. ,255	rack travel mm : 15.60
Rated speed rpm	: 1175	+ Tolerance mm : + 0.10
Tolerance 1/min	: +- 1	Rated speed rpm : 450 Pressure hPa : -
rack travet imi		rack travel mm : 9.75
Rated speed rpm Tolerance 1/min	: 1115 : +- 4	Tolerance mm : +- 0.20
rack travel mm	4.00	MEASUREMENT
rack travel mm Tolerance mm	: 0.85 : + 0.55	Rated speed rpm : 450
	•	Pressure hPa : 600 rack travel mm : 12.20
LOW IDLE		rack travel mm : 12.20 Tolerance mm : + 0.15
		Pressure hPa : 800
control lever	70.0	+ rack travel mm : 14.10
position degree tolerance degree		Tolerance mm : +- 0.20
Setting point w/o		<u> </u>
		FUEL DELIVERY CHARACTERISTICS
Rated speed rpm	: 100	İ

Aneroid pressure hPa

: 1200

CRT mm min.

: > 19.50

Rated speed rpm Del. quantity	: 600
cm3/1000 strokes	: 287.0
Tolerance cm3/1000 strokes	: ← 3.0
Check tolerance cm3/1000s.	: +- 6.0
Aneroid pressure	
hPa Rated speed rpm	: – : 500
Del. quantity cm3/1000 strokes	: 162.0
Tolerance cm3/1000 strokes	: + 1.0
Check tolerance cm3/1000S.	: +- 4.0
STARTING FUEL DEL	IVERY
Rated speed rpm Del. quantity	: 100
cm3/1000 strokes Folerance	: 260.0
cm3/1000 strokes	: +- 15.0
Check tolerance cm3/1000s.	: ← 19.0
LOW IDLE	
Rated speed rpm	: 550
Rack travel in mm Tolerance mm	: 4.00 : ← 0.10
Del. quantity	: 19.0
cm3/1000 strokes Tolerance	
m3/1000 strokes Check tolerance	: + 3.0
m3/1000s. Spreed	: +- 6.0
olerance m3/1000 strokes	: 8.0
Check tolerance cm3/1000s.	: 12.0
, 10003 i	

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 29.04.97 : ISO 4113 Test oil

Combination No. : 0 402 746 606A

Injection pump

Pump designation : PES6P110A720RS7406

EP type number : 0 412 716 810

Governor

Governer design. : RQV300...1050PA1090

: -1K

: 0 421 815 497 Governer no.

Cust. part No. : 9279608

Customer-spec. information Customer : LIEBHERR

Motor : D 926 TI-E A3

Power KW : 230.0

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet

temp. °C Tolerance °C

Overflow valve : 1 417 413 025

Inlet press. bar : : 1.5 : + 0.1 Tolerance bar

Overflow quantity

min. L/h : 125 Tolerance L/h : + 10.0

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

: 208.5 : +- 1.5 Tolerance bar

Test Lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0 x length mm :

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : Tolerance bar : + 1.0

Prestroke mm : 3.65 Tolerance mm : +- 0.05 Check

tolerance mm : +- 0.10

Rack travel in mm: 10.00 Tolerance mm : +- 1.00

: 1-5-3-6-2-Firing order

Phasing : 0-60-120-180-240

: -300

Tolerance : +- 0.50

Check

tolerance °NW : +- 0.75

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 13.80 Tolerance mm : \leftarrow 0.05

Del. quantity

cm3/1000 strokes : 205.0

Tolerance

cm3/1000 strokes : + 1.0

Check tolerance cm3/1000s. ; +- 4.0	CHINE CLEENE DOCTION
Spreed	+ GUIDE SLEEVE POSITION
Tolerance cm3/1000 strokes : 5.0	control lever position degree : - 1 Rated speed rpm : 1180
Check tolerance cm3/1000s. : 9.0	Rack travel in mm: 12.80 Tolerance mm: + 2.00
Rated speed rpm : 350	FULL LOAD DELIVERY AT FULL LOAD STOP
Rack travel in mm: 5.20 Tolerance mm: + 0.10 Del. quantity cm3/1000 strokes: 25.0 Tolerance cm3/1000 strokes: + 3.0 Check tolerance cm3/1000s. : + 6.0 Spreed Tolerance cm3/1000 strokes: 6.0 Check tolerance cm3/1000 strokes: 10.0 Check tolerance cm3/1000s. : 10.0	Rated speed rpm : 1050 Aneroid pressure hPa : 1600 Del. quantity cm3/1000 strokes : 205.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000 strokes : 9.0
GUIDE SLEEVE TRAVEL	control lever
Rated speed rpm : 1102 guide sleeve travel mm : 10.05 Tolerance mm : + 0.15 Rated speed rpm : 350 guide sleeve travel mm : 1.86 Tolerance mm : + 0.20 Rated speed rpm : 749 guide sleeve travel mm : 6.11 Tolerance mm : + 0.25 Rated speed rpm : 480 guide sleeve travel mm : 3.75	position degree : 116.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 12.80 Rated speed rpm : 1090 Tolerance 1/min : + 5 rack travel mm : 4.00 Rated speed rpm : 1195 Tolerance 1/min : + 15 rack travel mm : 0.50 Tolerance mm : + 0.50 Rated speed rpm : 1300
Tolerance mm : + 0.25 Rated speed rpm : 1330 guide sleeve travel mm : 13.50 Tolerance mm : + 0.50	LOW IDLE control lever position degree : 71.0 tolerance degree : +- 4.0

		+ Tolerance mm	: +- 0.05
Setting point w/o	out bumper spring	Pressure hPa	
Rated speed rpm	: 250	rack travel m Tolerance mm	: 670 m : 11.50
CRT mm min.	; > 7.40	+ Tolerance mm	: +- 0.10
Testing:		51151 051 71150	CUADACTECTOTACO
Rated speed rpm rack travel mm Tolerance mm	: 5.20	Aneroid press	CHARACTERISTICS
Rated speed rpm	: 420	hPa Rated speed r Del. quantity	: 1600 pm : 500 kes : 194.0
TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm	: 1050 : 13.80 : + 0.05	+ Tolerance	kes : +- 3.0 ce
Rated speed rpm rack travel mm Tolerance mm	: 10.90 : +- 0.15	Aneroid press hPa Rated speed r Del. quantity	: 1600 pm : 800
Rated speed rpm rack travel mm Tolerance mm	: 12.70 : + 0.15	+ cm3/1000 stro + Tolerance	kes : + 3.0
Rated speed rpm rack travel mm Tolerance mm	: 13.35	Check toleran cm3/1000s.	ce
Rated speed rpm rack travel mm Tolerance mm	: 600 : 11.45 : ← 0.10	Aneroid press hPa Rated speed r Del. quantity	: – om : 500
ANEROID/ALTITUDE COMPENSATOR TEST		+ Tolerance	kes : +- 1.0
SETTING		cm3/1000s. Spreed	: + 4.0
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 1050 : 1600 : 13.80 : +- 0.05	Tolerance cm3/1000 stro Check toleran cm3/1000s.	
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 1050 : - : 10.55 : + 0.10	STARTING FUEL Rated speed r	
MEASUREMENT		+ rack travel m + Tolerance mm	n : 10.60 : + 0.20
Rated speed rpm	: 1050	+ Del. quantity + cm3/1000 strol	
Pressure hPa rack travel mm	: 940 : 13.00	+ Tolerance + cm3/1000 strol	kes : +- 10.0

Check tolerance			
cm3/1000s.	:	+-	14.0

OW	IDL	

Rated speed rpm	:	350	
Rack travel in mm Tolerance mm Del. quantity	: : +-	5.20 0.10	
	:	25.0	
cm3/1000 strokes	; +-	3.0	
Check tolerance cm3/1000S. Spreed	: +-	6.0	
Tolerance cm3/1000 strokes Check tolerance	:	6.0	
cm3/1000s.	:	10.0	

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 24,06,97 Edition : ISO 4113 Test oil

Combination No. : 0 402 746 6060

Injection pump

Pump designation : PES6P110A720RS7406 EP type number : 0 412 716 810

Governor

Governer design. : RQV300...1050PA1090

: -1K

: 0 421 815 497 Governer no.

Cust. part No. : 9881520

Customer-spec. information Customer : LIEBHERR

: D 926 TI-E A3 Motor

: 240.0 Power KW

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet

temp. °C Tolerance °C

Overflow valve : 1 417 413 025

Inlet press. bar : : +- 0.1 Tolerance bar

Overflow quantity

: 125 min. L/h Tolerance l/h: + 20.0

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

: 208.5 bar : +- 1.5 Tolerance bar

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter: 2.0 x length mm :

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar: 26.0 Tolerance bar : + 1.0

Prestroke mm : 3.65 Tolerance mm : + 0.05 Check

: **←** 0.10 tolerance mm

Rack travel in mm : 10.00 Tolerance mm : + 1.00

Firing order : 1-5-3-6-2-

: 4

: 0-60-120-180-240 Phasing

: -300

Tolerance : +- 0.50

Check

tolerance °NW : + 0.75

BASIC SETTING

Rated speed rpm : 900

Rack travel in mm: 14.80 : +- 0.05 Tolerance mm

Del. quantity

cm3/1000 strokes : 234.0

Tolerance

cm3/1000 strokes : \leftarrow 1.0

Check tolerance cm3/1000s. : +- 4.0	<u> </u>
Spreed	+ GUIDE SLEEVE POSITION +
Tolerance cm3/1000 strokes : 5.0	control lever position degree : - 1 Rated speed rpm : 1179
Check tolerance cm3/1000s. : 9.0	Rack travel in mm : 12.80 Tolerance mm : +- 1.30
Rated speed rpm : 500	FULL LOAD DELIVERY AT FULL LOAD STOP
Rack travel in mm : 5.10 Tolerance mm : + 0.10 Del. quantity cm3/1000 strokes : 16.0	Rated speed rpm : 900 Aneroid pressure hPa : 1600 Del. quantity
Tolerance cm3/1000 strokes : +- 3.0	- cm3/1000 strokes : 234.0 - Tolerance
Check tolerance cm3/1000s. : +- 6.0	+ cm3/1000 strokes : + 1.0 + Check tolerance
Spreed Tolerance	+ cm3/1000S. : +- 4.0 + Spreed
cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 10.0	+ Tolerance + cm3/1000 strokes : 5.0 + Check tolerance
CHD7 10003 10.0	cm3/1000s. : 9.0
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	CONTROL LEVER
GUIDE SLEEVE TRAVEL	t control lever to position degree : 113.0
Rated speed rpm : 1102 guide sleeve	tolerance degree : +- 4.0
travel mm : 10.05 Tolerance mm : + 0.15	RATED SPEED rack travel mm : 13.80 Rated speed rpm : 940
Rated speed rpm : 350 guide sleeve	Tolerance 1/min : +- 5
travel mm : 1.86 Tolerance num : + 0.20	ruck travel mm : 4.00 Rated speed rpm : 1090 Tolerance 1/min : + 15
Rated speed rpm : 749 guide sleeve	rack travel mm : 0.50
travel mm : 6.11 Tolerance mm : + 0.25	+ Tolerance mm : + 0.50 + Rated speed rpm : 1150
Rated speed rpm : 480 guide sleeve	
travel mm : 3.75 Tolerance mm : + 0.25	LOW IDLE
Rated speed rpm : 1330 guide sleeve	t control lever
travel mm : 13.50 Tolerance mm : + 0.50	position degree : 82.0 tolerance degree : + 4.0

Setting point w/out bumper spring Rated speed rpm : 400	+ Pressure hPa : 900 + rack travel mm : 12.40 + Tolerance mm : + 0.10
CRT mm min. : > 7.50 Testing:	FUEL DELIVERY CHARACTERISTICS
Rated speed rpm : 500 rack travel mm : 5.10 Tolerance mm : + 0.10	Aneroid pressure hPa : 1600 Rated speed rpm : 500 Del. quantity cm3/1000 strokes : 266.0
TORQUE CONTROL Rated speed rpm : 900 rack travel mm : 14.80 Tolerance mm : + 0.05	Tolerance cm3/1000 strokes : 200.0 cm3/1000 strokes : + 3.0 check tolerance cm3/1000s. : + 6.0
Rated speed rpm : 500 rack travel mm : 13.50 Tolerance mm : + 0.15	Aneroid pressure hPa: 1600 Rated speed rpm: 800
Rated speed rpm : 800 rack travel mm : 14.70 Tolerance mm : +- 0.15	Del. quantity cm3/1000 strokes : 245.0 Tolerance
Rated speed rpm : 700 rack travel mm : 14.20 Tolerance mm : + 0.10	+ cm3/1000 strokes : +- 3.0 + Check tolerance + cm3/1000S. : +- 6.0
Rated speed rpm : 600 rack travel mm : 13.85 Tolerance mm : + 0.15	Aneroid pressure hPa : - Rated speed rpm : 500 Del. quantity cm3/1000 strokes : 225.0
ANEROID/ALTITUDE COMPENSATOR TEST	Tolerance cm3/1000 strokes : + 1.0 Check tolerance
SETTING	+ cm3/1000S. : +- 4.0
Rated speed rpm : 900 Pressure hPa : 1600 rack travel mm : 14.80 Tolerance mm : + 0.05	STARTING FUEL DELIVERY Rated speed rpm : 100 rack travel mm : 11.60
Rated speed rpm : 900 Pressure hPa : - rack travel mm : 12.10 Tolerance mm : + 0.15	Tolerance mm : +- 0.20 Del. quantity cm3/1000 strokes : 225.0 Tolerance
MEASUREMENT	cm3/1000 strokes : +- 10.0 Check tolerance cm3/1000s. : +- 14.0
Rated speed rpm : 900	T (1115) (1000).
Pressure hPa : 1100 rack travel mm : 13.70 Tolerance mm : + 0.10	LOW IDLE

FUEL DELIVERY CHA	RACTERISTICS	
Aneroid pressure	: 1600	
Rated speed rpm Del. quantity	: 500	
cm3/1000 strokes	: 266.0	
cm3/1000 strokes	: +- 3.0	
Check tolerance cm3/1000S.	: +- 6.0	
Aneroid pressure	4400	
nPa Rated speed rpm	: 1600 : 800	
Del. quantity cm3/1000 strokes	: 245.0	
Tolerance cm3/1000 strokes	: ← 3.0	
Check tolerance cm3/1000S.	: +- 6.0	
Aneroid pressure		
nPa Rated speed rpm	: – : 500	
Del. quantity cm3/1000 strokes	: 225.0	
olerance m3/1000 strokes	: + 1.0	
Check tolerance cm3/1000S.	: +- 4.0	
STARTING FUEL DEL	IVERY	
Rated speed rpm rack travel mm	: 100 : 11.60	
olerance mm	: +- 0.20	
mel. quantity	: 225.0	
olerance		
m3/1000 strokes heck tolerance	: +- 10.0	
m3/1000s.	: +- 14.0	

Rated speed rpm	:	500
Rack travel in mm	:	5.10
Tolerance mm Del. quantity	; +	0.10
cm3/1000 strokes	:	16.0
Tolerance cm3/1000 strokes	: +-	3.0
Check tolerance cm3/1000s.	: +-	6.0
Spreed	Ť	
Tolerance cm3/1000 strokes Check tolerance	:	6.0
cm3/1000s.	•	10.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 24,06,97 Edition : ISO 4113 Test oil

Combination No. : 0 402 746 606F

Injection pump

Pump designation : PES6P110A720RS7406 EP type number : 0 412 716 810

Governor

Governer design. : RQV300...1050PA1090

: -1K

: 0 421 815 497 Governer no.

Cust. part No. : 9882886

Customer-spec. information Customer : LIEBHERR : D 926 TI-E A3 Motor

Power KW : 234.0

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet

temp. °C Tolerance °C : +- 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5 Tolerance bar : + 0.1

Overflow quantity

min. l/h : 125 Tolerance l/h : + 20.0

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

208.5 : **←** 1.5 Tolerance bar

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter: x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : Tolerance bar : + 1.0

Prestroke mm : 3.65
Tolerance mm : + 0.05 Check

: +- 0.10 tolerance mm

Rack travel in mm : 10.00 Tolerance mm : + 1.00

Firing order : 1-5-3-6-2-

: 0-60-120-180-240 Phasing

: -300 Tolerance : +- 0.50

Check

tolerance °NW : + 0.75

BASIC SETTING

Rated speed rpm : 900

Rack travel in mm: 14.80

Tolerance mm : +- 0.05

Del. quantity

cm3/1000 strokes : 234.0

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance cm3/1000s.	: +- 4.0	<u></u>
Spreed		+ GUIDE SLEEVE POSITION
Tolerance cm3/1000 strokes	5.0	control lever position degree : - 1 Rated speed rpm : 1179
Check tolerance cm3/1000s.	: 9.0	Rack travel in mm : 12.80 Tolerance mm : +- 1.30
Rated speed rpm	: 400	FULL LOAD DELIVERY AT FULL LOAD STOP
Rack travel in m Tolerance mm Del. quantity	: +- 0.10	Rated speed rpm : 900 Aneroid pressure hPa : 1600
cm3/1000 strokes Tolerance cm3/1000 strokes		+ Del. quantity + cm3/1000 strokes : 234.0 + Tolerance
Check tolerance cm3/1000s.	: +- 6.0	+ cm3/1000 strokes : +- 1.0 + Check tolerance
Spreed Tolerance cm3/1000 strokes	6.0	+ cm3/1000S. : + 4.0 - Spreed - Tolerance
Check tolerance cm3/1000s.	: 10.0	- cm3/1000 strokes : 5.0 - Check tolerance - cm3/1000s. : 9.0
(B) SETTING OF I WITH GOVERNOR	NJECTION PUMP	CONTROL LEVER
GUIDE SLEEVE TRA	VEL	control lever position degree : 113.0
Rated speed rpm guide sleeve		tolerance degree : +- 4.0
travel mm Tolerance mm	: 10.05 : + 0.15	+ RATED SPEED + rack travel mm : 13.80 + Rated speed rpm : 940
Rated speed rpm guide sleeve	: 350 : 1.86	Tolerance 1/min : + 5 rack travel mm : 4.00
travel mm Tolerance mm	: +- 0.20	Rated speed rpm : 1090 Tolerance 1/min : + 15
Rated speed rpm guide sleeve travel mm	: 749 : 6.11	+ rack travel mm : 0.50 + Tolerance mm : + 0.50
Tolerance mm	: + 0.25	Rated speed rpm : 1150
Rated speed rpm guide sleeve	: 480	†
	: 3.75	T
travel mm Tolerance ऋत	: - 0.25	LOW IDLE
travel mm		control lever position degree : 82.0 tolerance degree : +- 4.0

Setting point w/out bumper spring Rated speed rpm : 300	Pressure hPa : 900 rack travel mm : 12.40 Tolerance mm : + 0.10
	-
CRT mm min. : > 7.50	FUEL DELIVERY CHARACTERISTICS
Testing:	1
Rated speed rpm : 400 rack travel mm : 5.10 Tolerance mm : + 0.10	Aneroid pressure hPa : 1600 Rated speed rpm : 500 Del. quantity cm3/1000 strokes : 266.0
TORQUE CONTROL Rated speed rpm : 900 rack travel mm : 14.80 Tolerance mm : + 0.05	Tolerance cm3/1000 strokes : +- 3.0 Check tolerance cm3/1000s. : +- 6.0
Rated speed rpm : 500 rack travel mm : 13.50 Tolerance mm : + 0.15 Rated speed rpm : 800 rack travel mm : 14.70 Tolerance mm : + 0.15	Aneroid pressure hPa : 1600 Rated speed rpm : 800 Del. quantity cm3/1000 strokes : 245.0 Tolerance
Rated speed rpm : 700 rack travel mm : 14.20 Tolerance mm : + 0.10	cm3/1000 strokes : +- 3.0 Check tolerance cm3/1000s. : +- 6.0
Rated speed rpm : 600 rack travel mm : 13.85 Tolerance mm : + 0.15	Aneroid pressure hPa : - Rated speed rpm : 500 Del. quantity cm3/1000 strokes : 225.0
ANEROID/ALTITUDE COMPENSATOR TEST	Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0
SETTING Rated speed rpm : 900	
Pressure hPa : 1600 rack travel mm : 14.80 Tolerance mm : +- 0.05	+ STARTING FUEL DELIVERY Rated speed rpm : 100 rack travel mm : 11.60
Rated speed rpm : 900 Pressure hPa : - rack travel mm : 12.10 Tolerance mm : +- 0.15 MEASUREMENT	Tolerance mm : + 0.20 Del. quantity cm3/1000 strokes : 225.0 Tolerance cm3/1000 strokes : + 10.0 Check tolerance
Rated speed rpm : 900	+ cm3/1000s. : +- 14.0
Pressure hPa : 1100 rack travel mm : 13.70 Tolerance mm : + 0.10	LOW IDLE

Rated speed rpm	:		400
Rack travel in mm Tolerance mm Del. quantity	:	+-	5.10 0.10
cm3/1000 strokes Tolerance	:		16.0
cm3/1000 strokes	:	+-	3.0
cm3/1000s. Spreed	:	+	6.0
Tolerance cm3/1000 strokes Check tolerance	:		6.0
cm3/1000s.	;		10.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 22.09.95 Test oil : ISO 4113

Combination No. : 0 402 746 959

Injection pump

Pump designation : PES6P120A720RS7292

: -1

EP type number : 0 412 726 939

Governor

Governer design. : RQV350...1150PA1104K

Governer no. : 0 421 815 368

Cust. part No. : 0250741402

Customer—spec. information
Customer : MB-NFZ
Motor : OM366LA
Power KW : 172.0

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet

temp. °C : 40 Tolerance °C : +- 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5 Tolerance bar : + 0.1

Overflow quantity

min. l/h : 100 Tolerance l/h : + 10.0

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar : 208.5 Tolerance bar : + 1.5 Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 4.00 Tolerance mm : +- 0.05 Check

tolerance mm : +- 0.10

Rack travel in mm : 20.50 Tolerance mm : + 0.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300 Tolerance : +- 0.50

Check

tolerance *NW : + 0.75

Start of delivery blocking

*NW after s.o.d. : 3.30

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1150

Rack travel in mm : 14.40 Tolerance mm : + 0.05

		+ guide sleeve
Del. quantity cm3/1000 strokes	: 280.0	travel mm : 3.09 Tolerance mm : + 0.25
Tolerance cm3/1000 strokes	: + 1.0	Rated speed rpm : 1480 guide sleeve travel mm : 13.50
Check tolerance cm3/1000s.	; +- 4.0	travel mm : 13.50 Tolerance mm : + 0.50
Spreed		GUIDE SLEEVE POSITION
Tolerance cm3/1000 strokes	: 8.0	control lever position degree : - 1
Check tolerance cm3/1000s.	: 12.0	Rated speed rpm : 1329
		Rack travel in mm : 13.25 Tolerance mm : +- 1.30
Poted enough nom	: 350	
Rated speed rpm Rack travel in mm		FULL LOAD DELIVERY AT FULL LOAD STOP
Tolerance mm Del. quantity	: + 0.10	Rated speed rpm : 1150 Aneroid pressure
cm3/1000 strokes Tolerance	: 13.0	hPa : 1500 - Del. quantity
cm3/1000 strokes Check tolerance	: +- 3.0	cm3/1000 strokes : 280.0 Tolerance
cm3/1000s. Spreed	: ← 6.0	cm3/1000 strokes : +- 1.0 Check tolerance
Tolerance cm3/1000 strokes	: 4.0	+ cm3/1000s. : + 4.0 + Spreed
Check tolerance cm3/1000s.	: 8.0	Tolerance cm3/1000 strokes : 8.0
45.		+ Check tolerance + cm3/1000S. : 12.0
(B) SETTING OF IN WITH GOVERNOR	JECTION PUMP	†
		CONTROL LEVER
GUIDE SLEEVE TRAV	EL	+
Rated speed rpm	: 1205	control lever position degree : 109.0
guide sleeve	. 1203	tolerance degree : + 4.0
travel mm	: 9.35	+
Tolerance mm	: + 0.15	RATED SPEED : 13.40
Rated speed rpm	: 350	Rated speed rpm : 1195
guide sleeve travel mm	: 1.53	† Tolerance 1/min : + 5
Tolerance mm	: + 0.20	+ rack travel mm : 4.00
Rated speed rpm	: 855	Rated speed rpm : 1300 Tolerance 1/min : - 15
guide sleeve	F	+
travel mm	: 5.56 : + 0.25	rack travel mm : 0.70 Tolerance mm : +- 0.70
Tolerance mm	F1.0	Rated speed rpm : 1430
Rated speed rpm	: 540	‡

LOW IDLE	
control lever position degree tolerance degree	: 65.0 : +- 4.0
Setting point w/o	ut bumper spring
Rated speed rpm	: 250
CRT mm min.	: > 6.88
Testing:	
Rated speed rpm rack travel mm Tolerance mm	: 350 : 6.00 : + 0.10
Rated speed rpm	: 400
TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm	
Rated speed rpm rack travel mm Tolerance mm	: 950 : 14.40 : + 0.10
Rated speed rpm rack travel mm Tolerance mm	: 750 : 13.90 : + 0.10
Rated speed rpm rack travel mm Tolerance mm	: 600 : 13.40 : +- 0.10
ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 1150 : 1500 : 14.40 : +- 0.05
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 1150 : - : 10.40 : + 0.15

Rated speed rpm	: 1150
Pressure hPa	: 1050
rack travel mm	: 13.60
Tolerance mm	: +- 0.05
Pressure hPa	: 450
rack travel mm	: 11.30 : +- 0.10
Tolerance mm	: +- 0.10
Start interlock	
Rated speed rpm Rated speed rpm	: > 100
Rated speed rpm	: < 270
Check	
speed 1/min Check	: > 80
speed 1/min	: < 290
FUEL DELIVERY CHA	RACTERISTICS
Aneroid pressure	
hPa	: 1500
Rated speed rpm	: 750
Del. quantity cm3/1000 strokes	: 290.0
Tolerance	
cm3/1000 strokes Check tolerance	: +- 2.0
cm3/1000s.	: +- 5.0
Spreed	
Tolerance cm3/1000 strokes	: 8.0
Check tolerance	
cm3/1000s.	: 12.0
**************************************	trape of the trape
Aneroid pressure	. 1500
hPa Rated speed rpm	: 1500 : 600
Del. quantity	
cm3/1000 strokes Tolerance	: 283.0
cm3/1000 strokes	: +- 3.0
Check tolerance	
cm3/1000s.	: ← 6.0
Aneroid pressure hPa	
Rated speed rpm	: 500
Del. quantity	. 47/ 0
cm3/1000 strokes Tolerance	: 134.0
cm3/1000 strokes	: +- 1.0

MEASUREMENT

Check tolerance : +- 4.0 cm3/1000s.

STARTING FUEL DELIVERY

Set starting CRT at K-cam.

Rated speed rpm : 100 rack travel mm : 13.60 : +- 0.20 Tolerance mm Del. quantity cm3/1000 strokes : 155.0 Tolerance cm3/1000 strokes : +- 15.0

Check tolerance : + 19.0 cm3/1000s.

LOW IDLE

Rated speed rpm : 350

Rack travel in mm : 6.00 Tolerance mm : +- 0.10 Del. quantity

cm3/1000 strokes : 13.0

Tolerance

cm3/1000 strokes : + 3.0Check tolerance

cm3/1000s.

: +- 6.0 Spreed

Tolerance

cm3/1000 strokes : 4.0

Check tolerance

cm3/1000s. 8.0

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 22.09.95 Test oil : ISO 4113

Combination No. : 0 402 746 960

Injection pump

Pump designation : PES6P120A720RS7292

: -1

EP type number : 0 412 726 939

Governor

Governer design. : RQV350...1150PA1104

: -1K

Governer no. : 0 421 815 371

Cust. part No. : 0250741302

Customer—spec. information Customer : MB—NFZ Motor : OM366LA Power KW : 157.0

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet

temp. $^{\circ}$ C : 40 Tolerance $^{\circ}$ C : + 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Overflow quantity

min. l/h : 100 Tolerance l/h : +- 10.0

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar : 208.5

Tolerance bar : +- 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter: 3.0 x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 4.00 Tolerance mm : + 0.05

Check

tolerance mm : + 0.10

Rack travel in mm : 20.50 Tolerance mm : + 0.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : +- 0.50

Check

tolerance °NW : +- 0.75

Start of delivery blocking

*NW after s.o.d. : 3.30

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1150

	1	
Rack travel in mm Tolerance mm	L	Rated speed rpm : 540 guide sleeve
		travel mm : 3.09
Del. quantity cm3/1000 strokes	: 280.0	Tolerance mm : +- 0.25
	<u> </u>	Rated speed rpm : 1480
Tolerance	+	guide sleeve
cm3/1000 strokes	: + 1.0 +	travel mm : 13.50
	1	Tolerance mm : +- 0.50
Check tolerance		Total arios min
cm3/1000s.	: + 4.0	
CIID7 10003.	· + 4.0	CUT VE CLEEKE DOCTTION
		GUIDE SLEEVE POSITION
Spreed	†	
	+	
Tolerance	+	control lever
cm3/1000 strokes	: 8.0 +	position degree : - 1
	1	Rated speed rpm : 1331
Check tolerance	<u></u>	1,000 0,000 1,011
cm3/1000s.	: 12.0	Rack travel in mm : 13.40
CHD / 10009 .	. 12.0	
		Tolerance mm : +- 1.30
	+	
	+	
Rated speed rpm	: 350 +	FULL LOAD DELIVERY AT FULL LOAD STOP
	+	
Rack travel in mm	n: 6.00 +	Rated speed rpm : 1150
Tolerance mm		Aneroid pressure
Del. quantity		hPa : 1500
	. 17.0	
cm3/1000 strokes	: 13.0	Del. quantity
Tolerance		cm3/1000 strokes : 280.0
cm3/1000 strokes	: + 3.0 +	Tolerance
Check tolerance	+	$cm3/1000$ strokes : \leftarrow 1.0
cm3/1000s.	: +- 6.0	Check tolerance
Spreed	1	cm3/1000s. : +- 4.0
Tolerance	1	Spreed
	T	·
cm3/1000 strokes	: 4.0 +	Tolerance
Check tolerance	+	cm3/1000 strokes : 8.0
c m3/1000 S.	: 8.0 +	Check tolerance
	+	cm3/1000s. : 12.0
	+	
(B) SETTING OF IN	NJECTION PUMP +	
WITH GOVERNOR	1	
W2111 G0121111011	1	CONTROL LEVER
GUIDE SLEEVE TRAN	JEI I	control lever
COLDE DEFENE THAT	I	position degree : 109.0
Datad aroad as-	: 1206	tolerance degree : +- 4.0
Rated speed rpm	: 1206	toterance degree : The 4.0
guide sleeve	1	DATEN COULD
travel mm	: 9.35	RATED SPEED
Tolerance mm	: + 0.15 +	rack travel mm : 13.40
	+	Rated speed rpm : 1195
Rated speed rpm	: 350	Tolerance 1/min : +- 5
guide sleeve	1	
travel mm	: 1.53	rack travel mm : 4.00
Tolerance mm	: + 0.20	Rated speed rpm : 1305
Office and		Tolerance 1/min : +- 15
Data di ana a di ana	. 055	FOLER GINE TABLETT : T- 13
Rated speed rpm	: 855 +	2.70
guide sleeve	<u> </u>	rack travel mm : 0.70
travel mm	: 5.56 +	Tolerance mm : $+-0.70$
Tolerance mm	: +- 0.25 +	Rated speed rpm : 1400
	·	

LOW IDLE

control lever

position degree : 65.0 tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 250

CRT mm min. : > 6.88

Testing:

Rated speed rpm : 350 rack travel mm : 6.00 Tolerance mm : + 0.10

Rated speed rpm : 400

TORQUE CONTROL

Rated speed rpm : 1150 rack travel mm : 14.40 Tolerance mm : +- 0.05

Rated speed rpm : 950 rack travel mm : 14.25 Tolerance mm : + 0.10

Rated speed rpm : 750 rack travel mm : 13.70 Tolerance mm : + 0.10

Rated speed rpm : 600 rack travel mm : 13.20 Tolerance mm : + 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 1150
Pressure hPa : 1500
rack travel mm : 14.40
Tolerance mm : +- 0.05

Rated speed rpm : 1150
Pressure hPa : rack travel mm : 10.50
Tolerance mm : +- 0.15

MEASUREMENT

Rated speed rpm : 1150

Pressure hPa : 1050 rack travel mm : 13.70 Tolerance mm : + 0.05

Pressure hPa : 400 rack travel mm : 11.30 Tolerance mm : +- 0.15

Start interlock

Rated speed rpm : > 100 Rated speed rpm : < 270

Check

speed 1/min :> 80

Check

speed 1/min : < 290

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1500
Rated speed rpm : 750
Del. quantity
cm3/1000 strokes : 285.0
Tolerance
cm3/1000 strokes : + 2.0
Check tolerance

cm3/1000s. : +- 5.0 Spreed

Tolerance

cm3/1000 strokes : 8.0
Check tolerance
cm3/1000S. : 12.0

Aneroid pressure

hPa : 1500 Rated speed rpm : 600 Del. quantity

cm3/1000 strokes : 277.0

Tolerance

cm3/1000 strokes : + 3.0 Check tolerance

cm3/1000s. : +- 6.0

Aneroid pressure

hPa : -Rated speed rpm : 500

Del. quantity cm3/1000 strokes : 143.0

Tolerance cm3/1000 strokes : +- 1.0Check tolerance cm3/1000s. : + 4.0 STARTING FUEL DELIVERY Set starting CRT at K-cam. Rated speed rpm : 100 rack travel mm : 13.80
Tolerance mm : + 0.20 Del. quantity cm3/1000 strokes : 175.0 Tolerance cm3/1000 strokes : + 15.0Check tolerance cm3/1000s. : +- 19.0 LOW IDLE Rated speed rpm : 350 Rack travel in mm: 6.00 Tolerance mm: + 0.10 Del. quantity cm3/1000 strokes : 13.0 Tolerance cm3/1000 strokes : \leftarrow 3.0 Check tolerance : +- 6.0 cm3/1000s. Spreed Tolerance cm3/1000 strokes : 4.0 Check tolerance cm3/1000s. : 8.0 End of test specification sheet

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 22.09.95 Test oil : ISO 4113

Combination No. : 0 402 746 961

Injection pump

Pump designation : PES6P120A720RS7292

: -1 EP type number : 0 412 726 939

Governor

Governer design. : RQV350...1150PA1104

: -2K

Governer no. : 0 421 815 372

Cust. part No. : 0250741202

Customer-spec. information Customer : M8-NFZ Motor : OM366LA Power KW : 142.0

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5 Tolerance bar : + 0.1

Overflow quantity

min. l/h : 100 Tolerance l/h : +- 10.0

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure : 208.5

Tolerance bar : + 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 4.00 Tolerance mm : +- 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm : 20.50 Tolerance mm : \leftarrow 0.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

: +- 0.50 Tolerance

Check

tolerance °NW : +- 0.75

Start of delivery blocking

*NW after s.o.d. : 3.30

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1150

MO7

	†
Rack travel in mm : 14.50 Tolerance mm : + 0.05	Rated speed rpm : 540 guide sleeve travel mm : 3.09
Del. quantity cm3/1000 strokes : 277.0	Tolerance mm : +- 0.25
Tolerance cm3/1000 strokes : +- 1.0	+ Rated speed rpm : 1480 + guide sleeve + travel mm : 13.50
Check tolerance cm3/1000s. : + 4.0	Tolerance mm : +- 0.50
Spreed	GUIDE SLEEVE POSITION
	1
Tolerance cm3/1000 strokes : 8.0	control lever position degree : - 1 Rated speed rpm : 1331
Check tolerance cm3/1000s. : 12.0	Rack travel in mm: 13.50
	Tolerance mm : +- 1.30
Rated speed rpm : 350	FULL LOAD DELIVERY AT FULL LOAD STOP
Rack travel in mm : 6.00	+ Rated speed rpm : 1150
Tolerance mm : +- 0.10	+ Rated speed rpm : 1150 + Aneroid pressure
Del. quantity	+ hPa : 1500
cm3/1000 strokes : 13.0	+ Del. quantity
Tolerance	+ cm3/1000 strokes : 277.0
cm3/1000 strokes : + 3.0	+ Tolerance
Check tolerance	+ cm3/1000 strokes : +- 1.0
cm3/1000s. : +- 6.0 Spreed	+ Check tolerance - cm3/1000s. : ← 4.0
Tolerance	Spreed
cm3/1000 strokes : 4.0	+ Tolerance
Check tolerance	+ cm3/1000 strokes : 8.0
cm3/1000s. : 8.0	+ Check tolerance
	+ cm3/1000s. : 12.0
(B) SETTING OF INJECTION PUMP	I
WITH GOVERNOR	
	+ CONTROL LEVER
GUIDE SLEEVE TRAVEL	t control lever
GOIDE SECENT TRAVEE	position degree : 108.0
Rated speed rpm : 1206	tolerance degree : +- 4.0
guide sleeve	+
travel mm : 9.35	+ RATED SPEED
Tolerance mm : +- 0.15	+ rack travel mm : 13.50 + Rated speed rpm : 1195
Rated speed rpm : 350	Tolerance 1/min : +- 5
guide sleeve travel mm : 1.53	+ rack travel mm : 4.00
Tolerance mm : +- 0.20	Rated speed rpm : 1305
	Tolerance 1/min : + 15
Rated speed rpm : 855 guide sleeve	+ rack travel mm : 0.70
travel mm : 5.56	Tolerance mm : + 0.70
Tolerance mm : + 0.25	+ Rated speed rpm : 1400

		+ Rated speed rpm	. 1150
		- Hated speed ipili	
LOW IDLE		Pressure hPa rack travel mm Tolerance mm	: 13.90
control lever position degree tolerance degree	: 70.0 : +- 4.0	Pressure hPa rack travel mm Tolerance mm	: 11.50
Setting point w/o	out bumper spring		
Rated speed rpm	: 250	Start interlock	
CRT mm min. Testing:	: > 7.00	Rated speed rpm Rated speed rpm	
Rated speed rpm rack travel mm Tolerance mm	: 6.00	Check speed 1/min Check	
		+ speed 1/min	:
Rated speed rpm	: 400	FUEL DELIVERY CHA	RACTERISTICS
TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm	: 14.50	Aneroid pressure hPa Rated speed rpm	: 1500
Rated speed rpm rack travel mm Tolerance mm	: 14.30	Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes	
Rated speed rpm rack travel mm Tolerance mm	: 750 : 13.70 : ← 0.10	theck tolerance cm3/1000s. Spreed Tolerance	: +- 5.0
Rated speed rpm rack travel mm	: 600 : 13.30	cm3/1000 strokes Check tolerance cm3/1000s.	: 8.0 : 12.0
Tolerance mm	: +- 0.10	Aneroid pressure	
ANEROID/ALTITUDE COMPENSATOR TEST		hPa Rated speed rpm Del. quantity	: 1500 : 600
SETTING		cm3/1000 strokes Tolerance	: 275.0
Rated speed rpm Pressure hPa	: 1150 : 1500	cm3/1000 strokes Check tolerance cm3/1000s.	: + 3.0 : + 6.0
rack travel mm Tolerance mm	: 14.50 : +- 0.05	Aneroid pressure	
Rated speed rpm Pressure hPa rack travel mm	: 1150 : - : 10.90	hPa Rated speed rpm Del. quantity	: 500
Tolerance mm	: +- 0.15	cm3/1000 strokes	: 155.0

MEASUREMENT

Tolerance cm3/1000 strokes : +- 1.0 Check tolerance

cm3/1000s. : +- 4.0

STARTING FUEL DELIVERY

Set starting CRT at K-cam.

Rated speed rpm : 100 rack travel mm : 13.90 Tolerance mm : + 0.20 Del. quantity cm3/1000 strokes : 170.0 Tolerance cm3/1000 strokes : + 15.0 Check tolerance cm3/1000s. : + 19.0

LOW IDLE

Rated speed rpm : 350 Rack travel in mm : 6.00 Tolerance mm : +- 0.10 Del. quantity cm3/1000 strokes : 13.0 Tolerance cm3/1000 strokes : +- 3.0 Check tolerance cm3/1000s. : +- 6.0 Spreed Tolerance cm3/1000 strokes : 4.0 Check tolerance cm3/1000s. 8.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 22.09.95 Test oil : 22.09.95

Combination No. : 0 402 746 962

Injection pump

Pump designation : PES6P12OA72ORS7292

: -1

EP type number : 0 412 726 939

Governor

Governer design. : RQV350...1150PA1104

: -3K

Governer no. : 0 421 815 373

Cust. part No. : 0250741102

Customer-spec. information Customer : MB-NFZ : OM366LA : 127.0 Motor Power KW

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet

temp. °C : 40
Tolerance °C : +- 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Overflow quantity min. L/h : 100 Tolerance L/h : +- 10.0

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

: 208.5 bar

Tolerance bar : +- 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter: x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm : 4.00 Toterance mm : +- 0.05

Check

tolerance mm : + 0.10

Rack travel in mm : 20.50 Tolerance mm : +- 0.50

Firing order : 1-5-3-6-2-

Phasing : 0-60-120-180-240

: -300

Tolerance : \div 0.50

Check

tolerance *NW : +- 0.75

Start of delivery blocking

*NW after s.o.d. : 3.30

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1150

Rack travel in mm : 14.20

M11

Tolerance mm : +- 0.05	+ guide sleeve + travel mm : 3.09
Del. quantity cm3/1000 strokes : 271.0	Tolerance mm : +- 0.25
Tolerance : + 1.0	Rated speed rpm : 1480 guide sleeve travel mm : 13.50
Check tolerance cm3/1000s. : +- 4.0	Tolerance mm : +- 0.50
Spreed	+ GUIDE SLEEVE POSITION +
Tolerance : 8.0	t control lever position degree : - 1 Rated speed rpm : 1329
Check tolerance : 12.ŭ	Rack travel in mm : 13.20 Tolerance mm : +- 1.30
Rated speed rpm : 350	FULL LOAD DELIVERY AT FULL LOAD STOP
Rack travel in mm : 6.00 Tolerance mm : +- 0.10 Del. quantity	Rated speed rpm : 1150 Aneroid pressure hPa : 1500
<pre>cm3/1000 strokes : 13.0 Tolerance cm3/1000 strokes : +- 3.0</pre>	Del. quantity cm3/1000 strokes : 271.0 Tolerance
Check tolerance cm3/1000s. : +- 6.0	cm3/1000 strokes : +- 1.0 Check tolerance
Spreed Tolerance Um3/1000 scrokes: 4.0	+ cm3/1000S. : +- 4.0 + Spreed + Tolerance
Check tolerance cm3/1000s. : 8.0	cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0
(B) SETTING OF INJECTION PUMP	+
WITH GOVERNOR	CONTROL LEVER
GUIDE SLEEVE TRAVEL Rated speed rpm : 1205	control lever position degree : 109.0 tolerance degree : +- 4.0
guide sleeve travel mm : 9.35 Tolerance mm : +- 0.15	RATED SPEED : 13.20
Rated speed rpm : 350 guide sleeve	Rated speed rpm : 1195 Tolerance 1/min : +- 5
travel mm : 1.53 Tolerance mm : + 0.20	rack travel mm : 4.00 Rated speed rpm : 1300 Tolerance 1/min : +- 15
Rated speed rpm : 855 guide sleeve	rack travel mm : 0.70
travel mm : 5.56 Tolerance mm : +- 0.25	Tolerance mm : +- 0.70 Rated speed rpm : 1400
Rated speed rpm : 540	+

LOW IDLE	
control lever position degree tolerance degree	: 65.0 : +- 4.0
Setting point w/o	ut bumper spring
Rated speed rpm	: 250
CRT mm min.	: > 7.00
Testing:	
Rated speed rpm rack travel mm Tolerance mm	: 350 : 6.00 : + 0.10
Rated speed rpm	: 400
TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm	: 1150 : 14.20 : +- 0.05
Rated speed rpm rack travel mm Tolerance mm	: 950 : 13.80 : +- 0.10
Rated speed rpm rack travel mm Tolerance mm	
Rated speed rpm rack travel mm Tolerance mm	
ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 1150 : 1500 : 14.20 : + 0.05
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 1150 : - : 11.00 : +- 0.15
MEASUREMENT	

Rated speed rpm	: 1150
Pressure hPa rack travel mm Tolerance mm	: 850 : 13.50 : +- 0.05
Pressure hPa rack travel mm Tolerance mm	: 350 : 11.70 : + 0.10
Start interlock	
Rated speed rpm Rated speed rpm	: > 100 : < 270
Check speed 1/min Check	: > 80
speed 1/min	: < 290
FUEL DELIVERY CHA	RACTERISTICS
Aneroid pressure hPa Rated speed rpm	: 1500 : 750
Dol gunntatu	
Del. quantity cm3/1000 strokes	: 262.0
cm3/1000 strokes Tolerance cm3/1000 strokes	: 262.0 : + 2.0
cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed	
cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: ← 2.0

Aneroid pressure
hPa : Rated speed rpm : 500
Del. quantity
cm3/1000 strokes : 166.0
Tolerance
cm3/1000 strokes : +- 1.0

: 1500

: +- 6.0

Aneroid pressure

Del. quantity

Check tolerance cm3/1000s.

Tolerance

Rated speed rpm : 600

cm3/1000 strokes : 256.0

cm3/1000 strokes : +- 3.0

hPa

Check tolerance cm3/1000s.

: +- 4.0

STARTING FUEL DELIVERY

Set starting CRT at K-cam.

Rated speed rpm : 100 rack travel mm : 13.70 : +- 0.20 Tolerance mm Del. quantity

cm3/1000 strokes : 158.0

Tolerance

cm3/1000 strokes : +- 15.0

Check tolerance

cm3/1000s. : +- 19.0

LOW IDLE

Rated speed rpm : 350

Rack travel in mm: 6.00 Tolerance mm: : + 0.10 Del. quantity

cm3/1000 strokes : 13.0

Tolerance

cm3/1000 strokes : +- 3.0

Check tolerance

cm3/1000s. 6.0

Spreed

Tolerance cm3/1000 strokes :

Check tolerance

8.0 cm3/1000s.

4.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 23,06,97 Edition : ISO 4113 Test oil

Combination No. : 0 402 796 041

Injection pump

Pump designation : PES6H110/320RS19 EP type number : 0 412 716 006

Governor

Governer design. : RE36

Governer no. : 0 421 890 374

Cust. part No. : 8192870 PO3 v.04/97

Customer-spec. information

Customer : VOLVO-TRUCK

Motor : D7C Power KW : 228.0

TEST BENCH REQUIREMENTS

Inlet line : 4(EHAB)

Test oil inlet

temp. °C : +- 2.0 Tolerance °C

Overflow valve : 2 417 413 082

Inlet press. bar : 3.0 Tolerance bar : + 0.1

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

208.5 bar Tolerance bar : + 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

Pump-specific values in Section (B) must be observed!

(A) INJECTION PUMP SETTINGS No basic setting. Setting of constant delivery under Section C.

BEGINNING OF DELIVERY

tolerance mm

Test pressure bar : Tolerance bar : +- 1.0

Prestroke mm : 8.00 : +- 0.05 Tolerance mm Check

Rack travel in mm : 10.50

Tolerance mm : +- 0.50

: 1-5-3-6-2 Firing order

: - 4

: + 0.10

Phasing : 0-60-120-180-240

: -300

Tolerance : +- 0.30

Check

tolerance °NW : +- 0.75

(B) POSITIONER TESTING Warm-up time: 3 minutes at n=600 min-1, Uact = 2.5 V

TESTING & SETTING RACK TRAVEL SENSOR

POSITION

Engine speed min-1:

Setting point

(P, R and H pump)
Uact V : 3.100 CR7 mm : 13.00 Tolerance mm : +/- 0.05 Check tolerance mm : +/- 0.10
Check value (P, R and H pump)
Uact V : 1.700 CRT mm : 6.15 Tolerance mm : +/- 0.25 Check tolerance mm : +/- 0.30
Setting point (M pump)
Uact V : 3.100 CRT mm : 12.50 Tolerance mm : +/- 0.05 Check tolerance mm : +/- 0.10
Check value (M pump)
Uact V : 1.700 CRT mm : 5.50 Tolerance mm : +/- G.25 Check tolerance mm : +/- 0.30
Stop position
Uact V: Value with deenergised adjusting magnet and control rod in stop position.
CRT mm : 0.75 Tolerance mm : +/- 0.25 Check tolerance mm : +/- 0.35
ENGINE-SPEED SENSOR (All P and R pumps not H and M pumps)
Test with control rod in stop position
Engine speed min-1: 60 Amplitude V : 1.4 Tolerance V : +/- 0.6 Check

tolerance V : +/- 1.20
Engine speed min-1: 600 Difference Amplitude to
Amplitude V : max.1.4
·
(C) INJECTION PUMP WITH POSITIONER
TEST POINT V1
Rated speed rpm : 660
Uact V : 3.000 Prestroke solenoid
Stroke mm : 5.30
Del. quantity
cm3/1000 strokes : 359.0 Tolerance
cm3/1000 strokes : +- 1.0
Check tolerance
cm3/1000s. : ÷- 5.0
Spreed Tolerance
cm3/1000 strokes : 8.0
Check tolerance
cm3/1000s. : 11.0
FUEL DELIVERY CHARACTERISTICS
050
Rated speed rpm : 950
TEST POINT L1
Rated speed rpm : 300
Uact V : 1.500
Tolerance Volt : +- 0.060 Chesk tolerance
Volt : +- 0.060
Prestroke solenoid Stroke mm : 5.30
Del. quantity
cm3/1000 strokes : 20.0
Tolerance cm3/1000 strokes : +- 2.0
Spreed
Tolerance
cm3/1000 strokes : 5.0 Check tolerance
cm3/1000s. : 8.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 22.08.95 : ISO 4113

Combination No. : 0 402 846 059

Injection pump

Pump designation : PE6P12OA72ORS8026 EP type number : 0 412 826 027

Governor

Governer design. : RQV200...950PA1091K

Governer no. : 0 421 815 984

Cust. part No. : 1355081

Customer-spec. information

Customer : SCANIA

Motor

: DSC1172

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet

temp. °C

40

Tolerance °C

: +- 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 2.5

Test nozzle holde

assembly

: 1 688 901 104

Opening pressure

251.5

Tolerance bar

: + 1.5

Test Lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter: 2.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

: 3.25 : +- 0.05 Prestroke mm Tolerance mm

Check

tolerance mm : + 0.10

Rack travel in mm : 10.50 Tolerance mm : ← 1.50

Firing order : 1-5-3-6-2-

Phasing : 0-60-120-180-240

: -300

: +- 0.30 Tolerance

Check

tolerance °NW : +- 0.50

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm: 12.35

Tolerance mm : \leftarrow 0.05

Rated speed rpm : 250

Rack travel in mm: 4.40

Tolerance mm : \leftarrow 0.10

M17

Del. quantity	+	Rated speed rpm : 1060
cm3/1000 strokes	: 16.0	
Tolerance	+	Rack travel in mm : 12.50
cm3/1000 strokes	: ← 3.0 +	Tolerance mm : +- 1.30
Check tolerance	+	
cm3/1000s.	: + 6.0 +	
Spreed	+	
Tolerance	+	CONTROL LEVER
cm3/1000 strokes	: 4.0 +	
Check tolerance	+	control lever
cm3/1000s.	: 8.0 +	position degree : 65.0
	+	tolerance degree : +- 4.0
(B) SETTING OF IN	NECTION PUMP +	control lever
WITH GOVERNOR	+	position degree : 118.0
	†	tolerance degree : \leftarrow 4.0
GUIDE SLEEVE TRAV	/EL +	RATED SPEED
	†	rack travel mm : 12.50
Rated speed rpm	: 1008 +	Rated speed rpm : 995
guide sleeve	†	Tolerance 1/min : +- 5
travel mm	: 9.87	Check
Tolerance mm	: + 0.15	speed 1/min : + 10
	, t	
Rated speed rpm	: 250 +	rack travel mm : 4.00
guide sleeve	1 2	Rated speed rpm : 1075
travel mm	: 1.26	Tolerance 1/min : +- 15
Tolerance mm	: + 0.20 +	Check
	1	speed 1/min : +- 20
Rated speed rom	: 800	0.50
guide sleeve	1	rack travel mm : 0.50
travel mm	: 6.59	Tolerance mm : +- 0.50
Tolerance mm	: + 0.25	Rated speed rpm : 1150
Ontrol and old man	740	
Rated speed rpm	: 310 +	
guide sleeve	1 200	
travel mm	: 2.00	LAUTALE
Tolerance mm	: ← 0.25 +	LOW IDLE
Datad anaad naa	. 740	
Rated speed rpm	: 360 +	control lever
guide sleeve travel mm	: 2.45	
Tolerance mm	: + 0.25	position degree : 71.0 tolerance degree : +- 4.0
IOLEI GILLE IIII	. += 0.65	toter ance degree . ** 4.0
Rated speed rpm	: 520	control lever
guide sleeve	.)20	position degree : 17.0
travel mm	: 3.58	tolerance degree : +- 4.0
Tolerance mm	1	totel affect degree 4.0
TOCCI di lec likii	1	Setting point w/out bumper spring
Rated speed rpm	: 1200	occoming points would bumper opining
guide sleeve	1	Rated speed rpm : 150
travel mm	: 13.50	Wated opeca i pili
Tolerance mm	: +- 0.50	CRT mm min. : > 5.40
TOTAL WILL HAIR	1	***
		Testing:
GUIDE SLEEVE POSI	TION	
	<u> </u>	Rated speed rpm : 250
	1	rack travel mm : 4.40
control lever	1	Tolerance mm : +- 0.10
position degree	:-1	
position acgree		

-

Rated speed rpm : 500 Rel. quantity Rm3/1000 strokes : 189.0 Rolerance Rm3/1000 strokes : + 1.0 Reck tolerance Rm3/1000s. : + 4.0 Rack travel in mm : 4.40 Rolerance mm : + 0.10 Rel. quantity Rm3/1000 strokes : + 3.0 Reck tolerance Rm3/1000 strokes : + 3.0 Reck tolerance Rm3/1000s. : + 6.0 Reck tolerance Rm3/1000s. : + 6.0 Reck tolerance Rm3/1000s. : + 6.0 Reck tolerance Rm3/1000s. : + 6.0 Reck tolerance Rm3/1000s. : + 6.0 Reck tolerance Rm3/1000s. : + 6.0 Reck tolerance Rm3/1000s. : + 6.0 Reck tolerance Rm3/1000s. : + 6.0 Reck tolerance Rm3/1000s. : + 6.0 Reck tolerance Rm3/1000s. : + 6.0 Reck tolerance Rm3/1000s. : + 6.0 Reck tolerance Rm3/1000s. : + 6.0 Reck tolerance Rm3/1000s. : + 6.0 Reck tolerance Rm3/1000s. : + 6.0 Reck tolerance				
Rated speed rpm : 500 rel. quantity rm3/1000 strokes : 189.0 Tolerance rm3/1000 strokes : + 1.0 Theck tolerance rm3/1000s. : + 4.0 Rated speed rpm : 250 Rack travel in mm : 4.40 Tolerance mm : + 0.10 rel. quantity rm3/1000 strokes : 16.0 Tolerance rm3/1000 strokes : + 3.0 Theck tolerance rm3/1000s. : + 6.0 Tolerance rm3/1000s. : + 6.0 Tolerance rm3/1000s. : + 6.0 Tolerance rm3/1000s. : + 6.0 Tolerance rm3/1000s. : + 6.0 Tolerance rm3/1000 strokes : 4.0 Tolerance rm3/1000 strokes : 4.0 Tolerance	Aneroid pressure			
Pel. quantity 183/1000 strokes : 189.0 Tolerance 183/1000 strokes : + 1.0 184-1000 strokes : + 4.0 185-1000 strokes : + 4.0 185-1000 strokes : + 0.10 185-1000 strokes : + 0.10 185-1000 strokes : + 3.0 185-1000 strokes : + 3.0 185-1000 strokes : + 6.0 185-1000 strokes : + 6.0 185-1000 strokes : + 4.0 185-1000 strokes : + 4.0 185-1000 strokes : + 4.0 185-1000 strokes : + 4.0 185-1000 strokes : + 4.0 185-1000 strokes : + 4.0 185-1000 strokes : + 4.0 185-1000 strokes : + 4.0 185-1000 strokes : + 4.0 185-1000 strokes : + 4.0 185-1000 strokes : + 4.0 185-1000 strokes : 4.0 185-1000 strokes : 4.0 185-1000 strokes : 4.0 185-1000 strokes : 4.0 185-1000 strokes : 4.0 185-1000 strokes : 4.0 185-1000 strokes : 4.0 185-1000 strokes : 4.0 185-1000 strokes : 4.0 185-1000 strokes : 4.0 185-1000 strokes : 4.0 185-1000 strokes : 4.0 185-1000 strokes : 4.0 185-1000 strokes : 4.0	hPa	:		-
### 1000 strokes : 189.0 ### 1.0		:		500
m3/1000 strokes : + 1.0 check tolerance cm3/1000s. : + 4.0 check travel in mm : 4.40 colerance mm : + 0.10 chel. quantity cm3/1000 strokes : + 3.0 check tolerance cm3/1000s. : + 6.0 check tolerance cm3/1000 strokes : + 6.0 check tolerance cm3/1000 strokes : 4.0 check tolerance cm3/1000 strokes : 4.0 check tolerance cm3/1000 strokes : 4.0 check tolerance cm3/1000 strokes : 4.0 check tolerance cm3/1000 strokes : 4.0 check tolerance cm3/1000 strokes : 4.0 check tolerance cm3/1000 strokes : 4.0 check tolerance cm3/1000 strokes : 4.0 check tolerance cm3/1000 strokes : 4.0 check tolerance cm3/1000 strokes : 4.0 check tolerance cm3/1000 strokes : 4.0 check tolerance cm3/1000 strokes : 4.0 check tolerance cm3/1000 strokes : 4.0 check tolerance cm3/1000 strokes : 4.0 check tolerance cm3/1000 strokes : 4.0 check tolerance check	cm3/1000 strokes	:		189.0
Check tolerance im3/1000s. : +- 4.0 Cow IDLE Cated speed rpm : 250 Cack travel in mm : 4.40 Colerance mm : +- 0.10 Colerance im3/1000 strokes : +- 3.0 Check tolerance im3/1000s. : +- 6.0 Copreed Colerance im3/1000 strokes : 4.0 Check tolerance im3/1000 strokes : 4.0 Check tolerance im3/1000 strokes : 4.0 Check tolerance im3/1000 strokes : 4.0	Tolerance	_		1.0
Cow IDLE Rated speed rpm : 250 Rack travel in mm : 4.40 Tolerance mm : + 0.10 Del. quantity Em3/1000 strokes : 16.0 Tolerance Em3/1000 strokes : + 3.0 Check tolerance Em3/1000s. : + 6.0 Spreed Tolerance Em3/1000 strokes : 4.0 Check tolerance Em3/1000 strokes : 4.0 Check tolerance		:	+-	1.0
Rated speed rpm : 250 Rack travel in mm : 4.40 Tolerance mm : + 0.10 Del. quantity Em3/1000 strokes : 16.0 Tolerance Em3/1000 strokes : + 3.0 Theck tolerance Em3/1000s. : + 6.0 Tolerance Em3/1000s. : + 6.0 Tolerance Em3/1000s. : + 6.0 Tolerance Em3/1000 strokes : 4.0 Tolerance Em3/1000 strokes : 4.0 Tolerance Em3/1000 strokes : 4.0 Tolerance	cm3/1000s.	:	+	4.0
Rated speed rpm : 250 Rack travel in mm : 4.40 Tolerance mm : + 0.10 Del. quantity Em3/1000 strokes : 16.0 Tolerance Em3/1000 strokes : + 3.0 Theck tolerance Em3/1000s. : + 6.0 Tolerance Em3/1000s. : + 6.0 Tolerance Em3/1000s. : + 6.0 Tolerance Em3/1000 strokes : 4.0 Tolerance Em3/1000 strokes : 4.0 Tolerance Em3/1000 strokes : 4.0 Tolerance				
Rated speed rpm : 250 Rack travel in mm : 4.40 Tolerance mm : + 0.10 Del. quantity Em3/1000 strokes : 16.0 Tolerance Em3/1000 strokes : + 3.0 Theck tolerance Em3/1000s. : + 6.0 Tolerance Em3/1000s. : + 6.0 Tolerance Em3/1000s. : + 6.0 Tolerance Em3/1000 strokes : 4.0 Tolerance Em3/1000 strokes : 4.0 Tolerance Em3/1000 strokes : 4.0 Tolerance				
Rack travel in mm: 4.40 Tolerance mm: +- 0.10 Del. quantity Em3/1000 strokes: 16.0 Tolerance Em3/1000 strokes: +- 3.0 Theck tolerance Em3/1000s. : +- 6.0 Tolerance Em3/1000s. : +- 6.0 Tolerance Em3/1000s. : +- 6.0 Tolerance Em3/1000 strokes: 4.0 Tolerance Em3/1000 strokes: 4.0 Tolerance	LOW IDLE			
Tolerance mm : + 0.10 Del. quantity m3/1000 strokes : 16.0 Tolerance m3/1000 strokes : + 3.0 Theck tolerance m3/1000s. : + 6.0 Tolerance m3/1000s. : 4.0 Tolerance m3/1000 strokes : 4.0 Theck tolerance				
pel. quantity cm3/1000 strokes : 16.0 Tolerance cm3/1000 strokes : + 3.0 Theck tolerance cm3/1000s. : + 6.0 Tolerance cm3/1000 strokes : 4.0 Theck tolerance cm3/1000 strokes : 4.0 Theck tolerance	Rated speed rpm	:		250
m3/1000 strokes : 16.0 Tolerance : 3.0 Theck tolerance : 4.0 T	Rated speed rpm Rack travel in mm	•		4.40
Tolerance 13.0 strokes : +- 3.0 sheck tolerance 15.0 spreed 15.0 strokes : +- 6.0 spreed 15.0 strokes : 4.0 sheck tolerance 15.0 strokes : 4.0 sheck tolerance	Rack travel in mm Tolerance mm	•	+	4.40
Check tolerance cm3/1000s. : +- 6.0 Spreed Tolerance cm3/1000 strokes : 4.0 Check tolerance	Rack travel in mm	•	+	4.40 0.10
cm3/1000s. : +- 6.0 Spreed Tolerance cm3/1000 strokes : 4.0 Check tolerance	Rack travel in mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance	•	+	4.40 0.10 16.0
olerance cm3/1000 strokes : 4.0 check tolerance	Rack travel in mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes	•	+	4.40 0.10 16.0
cm3/1000 strokes : 4.0 Check tolerance	Rack travel in mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance	•	+-+-	4.40 0.10 16.0 3.0
Check tolerance	Rack travel in mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed	•	+-	4.40 0.10 16.0 3.0
:m3/1000s. : 8.0	Rack travel in mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000S. Spreed Tolerance	: :	+-	4.40 0.10 16.0 3.0 6.0
	Rack travel in mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance	: :	+-+-	4.40 0.10 16.0 3.0 6.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 19.06.97 Test oil : ISO 4113

Combination No. : 0 403 466 138JA

Injection pump

Pump designation : PES6MW100/120RS1178

EP type number : 0 413 406 160

Governor

Governer design. : RSV350...1250MW2A332

: -4

Governer no. : 0 420 085 220

Cust. part No. : 3921188

Customer-spec. information Customer : CDC

Motor

: 6 CT

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5

Test nozzle holde

assembly

: 1 688 901 017

Opening pressure

bar

: 208.5

Tolerance bar : + 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : Tolerance bar : +- 1.0

Prestroke mm : 3.50
Tolerance mm : + 0.05

Check

tolerance mm

: +- 0.10

Rack travel in mm: 10.50

Tolerance mm : + 1.50

Firing order : 1-5- 3- 6- 2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : +- 0.50

Check

tolerance "NW : + 0.75

Start of delivery blocking

*NW after s.o.d. : 14.00

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 14.10

Tolerance mm : +- 0.05

Del. quantity

cm3/1000 strokes : 143.5

M20

Tolerance	+	Tolerance
cm3/1000 strokes	: +- 1.0 +	cm3/1000 strokes : +- 1.0
	+	Check tolerance
Check tolerance	+	cm3/1000s. : +- 4.0
cm3/1000s.	: + 4.0	Spreed
	+	Tolerance
Spreed	+	cm3/1000 strokes : 4.0
	1	Check tolerance
Tolerance	+	cm3/1000s. : 7.5
cm3/1000 strokes	: 4.0	
	+	
Check tolerance	-	
cm3/1000s.	: 7.5	CONTROL LEVER
	+	control lever
	+	position degree : 99.0
Rated speed rpm	: 350 +	tolerance degree : 4.0
	<u> </u>	
Rack travel in mm		RATED SPEED
Tolerance mm	: + 0.10	rack travel mm : 13.10
Del. quantity	.	Rated speed rpm : 1120
cm3/1000 strokes	: 22.0	Tolerance 1/min : + 5
Tolerance	t	mode Annual man () / 00
cm3/1000 strokes	: +- 2.0	rack travel mm : 4.00
Check tolerance cm3/1000s.	: +- 4.5	Rated speed rpm : 1255
	: +- 4.5	Tolerance 1/min : + 15
Spreed	Ť	rack travel mm : 0.85
Tolerance cm3/1000 strokes	: 3.5	rack travel mm : 0.85 Tolerance mm : +- 0.55
Check tolerance	; 3.3	
cm3/1000s.	: 5,5	Rated speed rpm : 1400
CIII37 TUQUS.	· 5.5	rack travel mm : 4.00
	\mathbf{I}	Rated speed rpm : 1270
(B) SETTING OF IN	LIECTION DIMO	Tolerance 1/min : +- 15
WITH GOVERNOR	1015 C 1 1014 L 01-11	Toterance Minni . The To
WITH GOVERNOR	1	
GUIDE SLEEVE POST	TION	LOW IDLE
	1	
control lever	Ť	control lever
position degree	: - 3	position degree : 75.0
Rated speed rpm		tolerance degree : +- 4.0
mateu opeca (pill	1	TO SOLICITION OF THE TIME
Rack travel in mm	: 0.65	Setting point w/out bumper spring
Tolerance mm		The state of the s
yer willow 1981	1	Rated speed rpm : 350
governor spring	1	
pre-tension	1	rack travel mm : 6.30 Tolerance mm : +- 0.10
click setting x	: 5.00 [↓]	
Total Good III g	+	Rated speed rpm : 100
		the second secon
FULL LOAD DELIVER	Y AT FULL LOAD STOP	CRT mm min. : > 19.00
	+	
Rated speed rpm		Testing:
Aneroid pressure	+	
hPa	: 900 +	Rated speed rpm : 350
Nal augustitus		
Del. quantity	†	rack travel mm : 6.80
cm3/1000 strokes	: 143.5	Tolerance mm : 6.80

rack travel mm Rated speed rpm Tolerance 1/min	: 2.00 : 490 : + 30
TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm	
ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 500 : 900 : 14.10 : \(\) 0.05
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 500 : - : 10.70 : + 0.10
MEASUREMENT	
Rated speed rpm	: 500
Pressure hPa rack travel mm Tolerance mm	: 335 : 13.20 : + 0.20
Pressure hPa rack travel mm Tolerance mm	: 165 : 11.70 : + 0.10
FUEL DELIVERY CHA	RACTERISTICS
Aneroid pressure hPa Rated speed rpm	: - : 500
Del. quantity cm3/1000 strokes	: 94.5
Tolerance cm3/1000 strokes	: + 2.0
Check tolerance cm3/1000s.	: +- 4.0

rack travel mm Tolerance mm	: +-	20.00 - 1.00	
Del. quantity cm3/1000 strokes	:	170.0	
Tolerance cm3/1000 strokes	: +	- 10.0	
Check tolerance cm3/1000s.	: +	- 15.0	
LOW IDLE			
Rated speed rpm	:	350	
Rack travel in mm. Tolerance mm	: : +	6.80 - 0.10	
Del. quantity			

Tolerance

Spreed

Check tolerance cm3/1000s.

Check tolerance

cm3/1000s.

End of test specification sheet

cm3/1000 strokes : +- 2.0

Tolerance cm3/1000 strokes :

: +- 4.5

: 5.5

3.5

Rated speed rpm : 100

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 19.06.97 Test oil : ISO 4113

Combination No. : 0 400 846 522

Injection pump

Pump designation : PES6A90D410RS2667 EP type number : 0 410 896 C80

Governor

Governer design. : R@V300...1400AB1065

: -4L

Governer no. : 0 420 212 168

Cust. part No. :

Customer—spec. information
Customer : MB—NFZ
Motor : OM 366
Power KW : 100.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. $^{\circ}$ C : 40 Tolerance $^{\circ}$ C : \leftarrow 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

assembly : 0 681 343 009

Opening pressure

bar : 173.5 Tolerance bar : + 1.5

Test Lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm : 2.30 Tolerance mm : \leftarrow 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-130-240

: -300

Tolerance : +- 0.50

Check

tolerance *NW : +- 0.75

BASIC SETTING

Rated speed rpm : 1400

Rack travel in mm : 11.15 Tolerance mm : +- 0.05

Del. quantity

cm3/1000 strokes : 64.0

Tolerance

cm3/1000 strokes : + 0.5

Check tolerance

cm3/1000s. : +- 2.5

Spreed

Tolerance cm3/1000 strokes	: 3.0	Rated speed rpm : 1400
Check tolerance	/ 5	Aneroid pressure hPa : -
cm3/1000s.	: 4.5	Del. quantity cm3/1000 strokes : 64.0
Dated aread arm	: 300	Tolerance cm3/1000 strokes : +- 0.5 Check tolerance
Rated speed rpm	+	cm3/1000s. : + 2.5
Rack travel in mm Tolerance mm	1	Spreed Tolerance
Del. quantity cm3/1000 strokes	: 11.0	cm3/1000 strokes : 3.0 Check tolerance
Tolerance cm3/1000 strokes	: +- 2.0	cm3/1000s. : 4.5
Check tolerance cm3/1000s.	: + 4.0	
Spreed Tolerance	+	CONTROL LEVER
cm3/1000 strokes Check tolerance	: 2.0	control lever position degree : 112.0
cm3/1000s.	: 4.0	tolerance degree : + 4.0
(B) SETTING OF IN. WITH GOVERNOR	JECTION PUMP	RATED SPEED rack travel mm : 10.10 Rated speed rpm : 1445 Tolerance 1/min : +- 5
GUIDE SLEEVE TRAVE		rack travel mm : 4.00
Rated speed rpm guide sleeve	: 1450	Rated speed rpm : 1555 Tolerance 1/min : +- 15
travel mm Tolerance mm	: 8.45 : +- 0.05	rack travel mm : 0.50 Tolerance mm : +- 0.50 Rated speed rpm : 1650
Rated speed rpm guide sleeve	: 300	Nacca Speca (piii : 1050
travel mm Tolerance mm	: 1.05 : + 0.25	
Rated speed rpm	: 600	LOW IDLE
guide sleeve travel mm	: 3.20	control lever
Tolerance mm	: + 0.80	position degree : 74.0 tolerance degree : +- 4.0
Rated speed rpm guide sleeve	: 650	Setting point w/out bumper spring
guide steeve travel mm Tolerance mm	: 3.95 : + 0.25	Rated speed rpm : 100
0.175		CRT mm min. : > 10.30
GUIDE SLEEVE POSIT	ITON	Testing:
control lever	: 4	Rated speed rpm : 300 rack travel mm : 9.00
position degree		Tolerance mm : +- 0.10
FULL LOAD DELIVERY	Y AT FULL LOAD STOP	Rated speed rpm : 610

FORQUE CONTROL Rated speed rpm rack travel mm Folerance mm	: : : +	1400 11.15 - 0.05		
Rated speed rpm rack travel mm Tolerance mm	: +	500 12.30 - 0.10		
Rated speed rpm rack travel mm Tolerance mm	: : : +	900 11.99 - 0.19		
Rated speed rpm rack travel mm Tolerance mm	: +	1100 11.55 - 0.15	5	
Start interlock				
Rated speed rpm Rated speed rpm	; > ; <			
Check speed 1/min	: >	80)	
Charl.				
	; <	240)	
speed 1/min				
Check speed 1/min FUEL DELIVERY CHA Aneroid pressure hPa				
Speed 1/min FUEL DELIVERY CHA Aneroid pressure hPa Rated speed rpm				
speed 1/min FUEL DELIVERY CHA Aneroid pressure hPa Rated speed rpm Del. quantity	RACT	ERISTIC	CS	
Speed 1/min FUEL DELIVERY CHA Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes	RACT	ERISTI(CS	-
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance	RACT	500 53.0	CS ——	
FUEL DELIVERY CHA Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance	RACT	500 53.0	0	
Speed 1/min FUEL DELIVERY CHA Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes	RACT	500 53.0	0	
FUEL DELIVERY CHA Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Aneroid pressure	RACT	500 53.0	0	
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000strokes Check tolerance cm3/1000s. Aneroid pressure hPa	RACT	500 53.0 - 1.0	0	
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Aneroid pressure hPa Rated speed rpm	RACT	500 53.0	0	
FUEL DELIVERY CHA Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000strokes Check tolerance cm3/1000s. Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes	RACT	500 53.0 - 1.0	0	
FUEL DELIVERY CHA Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Aneroid pressure hPa Rated speed rpm Del. quantity	RACT	500 53.0 - 1.0 - 3.5	0	

Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: 100 : 17.20 : +- 0.20 : 83.0 : +- 5.0 : +- 8.0
LOW IDLE	
Rated speed rpm	: 300
Rack travel in mm Tolerance mm	9.00 + 0.10
Del. quantity cm3/1000 strokes	: 11.0
Tolerance cm3/1000 strokes	: + 2.0
Check tolerance cm3/1000S. Spreed	: +- 4.0
Tolerance cm3/1000 strokes	: 2.0

End of test specification sheet

Check tolerance cm3/1000s. : 4.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 24.06.97 Test oil : ISO 4113

Combination No. : 0 400 866 069

Injection pump

Pump designation : PES6A90D320/3RS2464

EP type number : 3 410 896 029

Governor

Governer design. : RSV300...1000A7C529R

Governer no. : 0 420 233 191

Cust. part No. :

Customer-spec. information Customer : MWM

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 419 922 198

Inlet press. bar : 1.5

Test nozzle holde

assembly : 0 681 343 009_

Opening pressure

bar : 173.5 Tolerance bar : + 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Check

tolerance mm : \leftarrow 0.10

Rack travel in ma : 10.50
Tolerance mm : +- 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : +- 0.50

Check

tolerance *NW : +- 0.75

BASIC SETTING

Rated speed rpm : 980

Rack travel in mm: 10.30 Tolerance mm: + 0.05

Del. quantity

cm3/1000 strokes : 68.0

Tolerance

cm3/1000 strokes : \leftarrow 0.5

Check tolerance

cm3/1000s. : +- 2.5

Spreed

Tolerance

cm3/1000 strokes : 3.0

5.0

Check tolerance cm3/1000s. : 4.5	control lever position degree : 65.0 tolerance degree : +- 4.0
Rated speed rpm : 300	RATED SPEED
Rack travel in mm: 7.50 Tolerance mm: + 0.10 Del. quantity	Rated speed rpm : 1025 Tolerance 1/min : +- 5
cm3/1000 strokes : 10.0 - Tolerance	rack travel mm : 4.00 Rated speed rpm : 1055
cm3/1000 strokes : +- 2.0 Check tolerance	Tolerance 1/min : + 15
<pre>cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 4.5</pre>	rack travel mm : 1.00 Tolerance mm : +- 0.70 Rated speed rpm : 1200
cm3/1000 strokes : 4.5 Check tolerance cm3/1000s. : 6.0	rack travel mm : 4.00
(3) SETTING OF INJECTION PUMP WITH GOVERNOR	LOW IDLE
GUIDE SLEEVE POSITION	control lever position degree : 28.0 tolerance degree : +- 4.0
control lever position degree : - 3	Setting point w/out bumper spring
Rated speed rpm : 800	Rated speed rpm : 300
Rack travel in mm: 0.65 Tolerance mm: + 0.35	Tolerance mm : + 0.10
	Rated speed rpm : 100
FULL LOAD DELIVERY AT FULL LOAD STOP	1 007 1 10 50
•	+ CRT mm min. : > 19.50
Rated speed rpm : 980 Aneroid pressure	Testing:
	Testing: Rated speed rpm : 300 rack travel mm : 7.50
Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 68.0	Testing:
Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 68.0 Tolerance cm3/1000 strokes : +- 0.5	Testing: Rated speed rpm : 300 rack travel mm : 7.50 Tolerance mm : + 0.10 rack travel mm : 2.00
Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 68.0 Tolerance cm3/1000 strokes : +- 0.5 Check tolerance cm3/1000s. : +- 2.5	Testing: Rated speed rpm : 300 rack travel mm : 7.50 Tolerance mm : + 0.10
Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 68.0 Tolerance cm3/1000 strokes : +- 0.5 Check tolerance	Testing: Rated speed rpm : 300 rack travel mm : 7.50 Tolerance mm : + 0.10 rack travel mm : 2.00 Rated speed rpm : 430
Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 68.0 Tolerance cm3/1000 strokes : +- 0.5 Check tolerance cm3/1000s. : +- 2.5 Spreed Tolerance	Testing: Rated speed rpm : 300 rack travel mm : 7.50 Tolerance mm : + 0.10 rack travel mm : 2.00 Rated speed rpm : 430 Tolerance 1/min : + 30
Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 68.0 Tolerance cm3/1000 strokes : +- 0.5 Check tolerance cm3/1000s. : +- 2.5 Spreed Tolerance cm3/1000 strokes : 3.0 Check tolerance	Testing: Rated speed rpm : 300 rack travel mm : 7.50 Tolerance mm : + 0.10 rack travel mm : 2.00 Rated speed rpm : 430 Tolerance 1/min : + 30 Rated speed rpm : 450 CRT mm max. : < 1.00
Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 68.0 Tolerance cm3/1000 strokes : +- 0.5 Check tolerance cm3/1000s. : +- 2.5 Spreed Tolerance cm3/1000 strokes : 3.0 Check tolerance	Testing: Rated speed rpm : 300 rack travel mm : 7.50 Tolerance mm : + 0.10 rack travel mm : 2.00 Rated speed rpm : 430 Tolerance 1/min : + 30 Rated speed rpm : 450 CRT mm max. : < 1.00

Start interlock

Rated speed rpm : > 100

Check

speed 1/min :> 80

STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 20.25 Tolerance mm : +- 0.75

Del. quantity

cm3/1000 strokes : 118.0

Tolerance

cm3/1000 strokes : + 7.5

Check tolerance

cm3/1000s. : +- 10.0

LOW IDLE

Rated speed rpm : 300

7.50 Rack travel in mm: Tolerance mm : +- 0.10 Del. quantity cm3/1000 strokes : 10.0

Tolerance cm3/1000 strokes : +- 2.0

Check tolerance

cm3/1000s. : +-4.0

Spreed Tolerance

cm3/1000 strokes : 4.5

Check tolerance

cm3/1000s. : 6.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 01.07.97 Test oil : ISO 4113

Combination No. : 0 400 866 207AA

Injection pump Pump designation : EP type number :

Governor

Governer design. :
Governer no. :

Cust. part No. : 3921147

Customer—spec. information Customer : CUMMINS Motor : & C 8.3

TEST BENCH REQUIREMENTS

Inlet line : 2.

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5

Test nozzle holde

assembly : 1 688 901 101

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 28.0 Tolerance bar : + 1.0

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : + 0.50

Check

tolerance "NW : +- 0.75

Start of delivery mark

*NW after s.o.d. : 10.00

Tolerance : +- 0.10

Check

tolerance *NW : + 0.29

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm : 13.25

Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 132.0

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance

cm3/1000s. : +- 3.0

Spreed

NO1

Talamuusa	Check tolerance
Tolerance -	cm3/1000s. : 8.0
cm3/1000 strokes : 3.5	<u>†</u>
Observation and the second sec	†
Check tolerance	CONTROL + FILED
cm3/1000s. : 8.0	CONTROL LEVER
-	†
•	control lever
	position degree : 95.0
Rated speed rpm : 400	tolerance degree : +- 4.0
5.40	1
Rack travel in mm: 5.60	RATED SPEED
Tolerance mm : + 0.10	rack travel mm : 12.20
Del. quantity	Rated speed rpm : 1065
cm3/1000 strokes : 18.0	Tolerance 1/min : +- 5
Tolerance 2.0	
cm3/1000 strokes : +- 2.0	rack travel mm : 4.00
Check tolerance	Rated speed cpm : 1150
cm3/1000s. : + 4.5	Tolerance 1/min : +- 5
Spreed	
Tolerance 5.5	rack travel mm : 0.85
cm3/1000 strokes : 5.5	Tolerance mm : +- 0.55
Check tolerance cm3/1000s. : 9.0	Pated speed rpm : 1350
cm3/1000s. : 9.0	t + rack travel mm : 4.00
(B) SETTING OF INJECTION PUMP	+ Rated speed rpm : 1150 + Tolerance 1/min : +- 15
	Tolerance 1/min : +- 15
WITH GOVERNOR	Ť
•	Ţ
·	†
)
CHINE SIEEVE POSITION	LOW TOLE
GUIDE SLEEVE POSITION	LOW IDLE
GUIDE SLEEVE POSITION	LOW IDLE
control lever	control lever
control lever position degree : - 3	- -
control lever	control lever
control lever position degree : - 3 Rated speed rpm : 800	control lever position degree : 78.0 tolerance degree : +- 4.0
control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.50	- -
control lever position degree : - 3 Rated speed rpm : 800	control lever position degree : 78.0 tolerance degree : +- 4.0 Setting point w/out bumper spring
control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20	control lever position degree : 78.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 400
control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring	control lever position degree : 78.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 400 rack travel mm : 5.10
control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension	control lever position degree : 78.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 400
control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring	control lever position degree : 78.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 400 rack travel mm : 5.10 Tolerance mm : +- 0.10
control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension	control lever position degree : 78.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 400 rack travel mm : 5.10
control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 2.50	control lever position degree : 78.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 400 rack travel mm : 5.10 Tolerance mm : +- 0.10 Rated speed rpm : 100
control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension	control lever position degree : 78.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 400 rack travel mm : 5.10 Tolerance mm : +- 0.10
control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 2.50 FULL LOAD DELIVERY AT FULL LOAD STOP	control lever position degree : 78.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 400 rack travel mm : 5.10 Tolerance mm : +- 0.10 Rated speed rpm : 100 CRT mm min. : > 19.50
control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 2.50 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1000	control lever position degree : 78.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 400 rack travel mm : 5.10 Tolerance mm : +- 0.10 Rated speed rpm : 100
control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 2.50 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1000 Aneroid pressure	control lever position degree : 78.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 400 rack travel mm : 5.10 Tolerance mm : +- 0.10 Rated speed rpm : 100 CRT mm min. :> 19.50 Testing:
control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 2.50 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1000 Aneroid pressure hPa : -	control lever position degree : 78.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 400 rack travel mm : 5.10 Tolerance mm : +- 0.10 Rated speed rpm : 100 CRT mm min. :> 19.50 Testing: Rated speed rpm : 400
control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 2.50 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1000 Aneroid pressure hPa : - Del. quantity	control lever position degree : 78.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 400 rack travel mm : 5.10 Tolerance mm : +- 0.10 Rated speed rpm : 100 CRT mm min. :> 19.50 Testing: Rated speed rpm : 400 rack travel mm : 5.60
control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 2.50 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1000 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 132.0	control lever position degree : 78.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 400 rack travel mm : 5.10 Tolerance mm : +- 0.10 Rated speed rpm : 100 CRT mm min. :> 19.50 Testing: Rated speed rpm : 400
control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 2.50 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1000 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 132.0 Tolerance	control lever position degree : 78.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 400 rack travel mm : 5.10 Tolerance mm : +- 0.10 Rated speed rpm : 100 CRT mm min. :> 19.50 Testing: Rated speed rpm : 400 rack travel mm : 5.60 Tolerance mm : +- 0.10
control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 2.50 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1000 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 132.0 Tolerance cm3/1000 strokes : +- 1.0	control lever position degree : 78.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 400 rack travel mm : 5.10 Tolerance mm : +- 0.10 Rated speed rpm : 100 CRT mm min. :> 19.50 Testing: Rated speed rpm : 400 rack travel mm : 5.60 Tolerance mm : +- 0.10 rack travel mm : 5.60 Tolerance mm : +- 0.10
control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 2.50 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1000 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 132.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance	control lever position degree : 78.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 400 rack travel mm : 5.10 Tolerance mm : +- 0.10 Rated speed rpm : 100 CRT mm min. :> 19.50 Testing: Rated speed rpm : 400 rack travel mm : 5.60 Tolerance mm : +- 0.10 rack travel mm : 5.60 Tolerance mm : +- 0.10 rack travel mm : 2.00 Rated speed rpm : 500
control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 2.50 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1000 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 132.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 3.0	control lever position degree : 78.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 400 rack travel mm : 5.10 Tolerance mm : +- 0.10 Rated speed rpm : 100 CRT mm min. :> 19.50 Testing: Rated speed rpm : 400 rack travel mm : 5.60 Tolerance mm : +- 0.10 rack travel mm : 5.60 Tolerance mm : +- 0.10
control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 2.50 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1000 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 132.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 3.0 Spreed	control lever position degree : 78.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 400 rack travel mm : 5.10 Tolerance mm : +- 0.10 Rated speed rpm : 100 CRT mm min. :> 19.50 Testing: Rated speed rpm : 400 rack travel mm : 5.60 Tolerance mm : +- 0.10 rack travel mm : 5.60 Tolerance mm : +- 0.10 rack travel mm : 2.00 Rated speed rpm : 500
control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 2.50 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1000 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 132.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 3.0	control lever position degree : 78.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 400 rack travel mm : 5.10 Tolerance mm : +- 0.10 Rated speed rpm : 100 CRT mm min. :> 19.50 Testing: Rated speed rpm : 400 rack travel mm : 5.60 Tolerance mm : +- 0.10 rack travel mm : 5.60 Tolerance mm : +- 0.10 rack travel mm : 2.00 Rated speed rpm : 500

Rated speed rpm : 1000 rack travel mm : 13.25 Tolerance mm : +- 0.05

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.25
Tolerance mm : + 0.75
Del. quantity
cm3/1000 strokes : 145.0
Tolerance
cm3/1000 strokes : + 7.5
Check tolerance
cm3/1000s. : + 10.0

LOW IDLE

Rated speed rpm : 400

Rack travel in mm : 5.60
Tolerance mm : + 0.10
Del. quantity
cm3/1000 strokes : 18.0
Tolerance
cm3/1000 strokes : + 2.0
Check tolerance
cm3/1000s. : + 4.5
Spreed
Tolerance
cm3/1000 strokes : 5.5
Check tolerance
cm3/1000 strokes : 9.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Fdition Test oil

: 01.07.97 : ISO 4113

Combination No. : 0 400 866 208AI

Injection pump Pump designation : EP type number

Governor

Governer design. : Governer no.

Cust. part No. : 3921142

Customer-spec. information Customer : CUMMINS

TEST BENCH REQUIREMENTS

Inlet line : 2.

Test oil inlet

temp. °C 40 Tolerance °C : +- 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5

Test nozzle holde

: 1 688 901 100 assembly

Opening pressure

: 208.5 bar Tolerance bar : + 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar: 17.0 Tolerance bar : +- 1.0

Firing order : 1-5-3-6-2-

: 0-60-120-180-240 Phasing

: -300

Tolerance : +- 0.50

Check

tolerance °NW : +- 0.75

Start of delivery mark

*NW after s.o.d. : 10.00 Tolerance : \leftarrow 0.10

Check

tolerance *NW : +- 0.29

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm : 12.15

Tolerance mm : +- 0.05

Del. quantity cm3/1000 strokes : 120.0

Tolerance cm3/1000 strokes : \div 1.0

Check tolerance cm3/1000s. : +- 3.5

Spreed

Tolerance

cm3/1000 strokes : 4.0

N04

Check tolerance cm3/1000s. : 6.5	
	- CONTROL LEVER
	- - control lever
-	- position degree : 87.0
Rated speed rpm : 400	- tolerance degree : +- 4.0 -
Rack travel in mm: 5.70	- RATED SPEED
Tolerance mm : + 0.10	- rack travel mm : 11.10
Del. quantity cm3/1000 strokes : 17.0	- Rated speed rpm : 1065 - Tolerance 1/min : +- 5
Tolerance	- Totel ance Printing . T
cm3/1000 strokes : + 2.0	rack travel mm : 4.00
Check tolerance cm3/1000s. : +- 4.5	- Rated speed rpm : 1090 - Tolerance 1/min : +- 5
cm3/1000s. : +- 4.5 Spreed	- Toterance T/min : +- 5
Tolerance	- rack travel mm : C.85
cm3/1000 strokes : 6.0	- Tolerance mm : + 0.55
Check tolerance cm3/1000s. : 8.0	- Rated speed rpm : 1300
	- rack travel mm : 4.00
(2)	- Rated speed rpm : 1090
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	- Tolerance 1/min : + 15
WITH GOVERNOR	-
1	-
GUIDE SLEEVE POSITION	- LOW IDLE
control lever	- control lever
position degree : FREE	position degree : 69.0
Rated speed rpm : 800	- tolerance degree : +- 4.0
Rack travel in mm: 0.50	- Setting point w/out bumper spring
Tolerance mm : + 0.20	- occorning points wrote bumper spring
_	- Rated speed rpm : 400
governor spring	- rack travel mm : 5.20
pre-tension -	
governor spring pre-tension click setting x : 2.00	- rack travel mm : 5.20
pre-tension click setting x : 2.00	rack travel mm : 5.20 Tolerance mm : + 0.10 Testing:
pre-tension -	rack travel mm : 5.20 Tolerance mm : + 0.10
pre-tension click setting x : 2.00 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1000	rack travel mm : 5.20 Tolerance mm : + 0.10 Testing: Rated speed rpm : 400
FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1000 Aneroid pressure	rack travel mm : 5.20 Tolerance mm : + 0.10 Testing: Rated speed rpm : 400 rack travel mm : 5.70 Tolerance mm : + 0.10
FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1000 Aneroid pressure hPa : -	rack travel mm : 5.20 Tolerance mm : + 0.10 Testing: Rated speed rpm : 400 rack travel mm : 5.70 Tolerance mm : + 0.10 rack travel mm : 2.00
FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1000 Aneroid pressure	rack travel mm : 5.20 Tolerance mm : + 0.10 Testing: Rated speed rpm : 400 rack travel mm : 5.70 Tolerance mm : + 0.10 rack travel mm : 2.00
pre-tension click setting x : 2.00 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1000 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 120.0 Tolerance	rack travel mm : 5.20 Tolerance mm : + 0.10 Testing: Rated speed rpm : 400 rack travel mm : 5.70 Tolerance mm : + 0.10 rack travel mm : 2.00 Rated speed rpm : 450
pre-tension click setting x : 2.00 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1000 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 120.0 Tolerance cm3/1000 strokes : + 1.0	rack travel mm : 5.20 Tolerance mm : + 0.10 Testing: Rated speed rpm : 400 rack travel mm : 5.70 Tolerance mm : + 0.10 rack travel mm : 2.00 Rated speed rpm : 450 Tolerance 1/min : + 30
pre-tension click setting x : 2.00 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1000 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 120.0 Tolerance	rack travel mm : 5.20 Tolerance mm : + 0.10 Testing: Rated speed rpm : 400 rack travel mm : 5.70 Tolerance mm : + 0.10 rack travel mm : 2.00 Rated speed rpm : 450
pre-tension click setting x : 2.00 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1000 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 120.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 3.5 Spreed	rack travel mm : 5.20 Tolerance mm : + 0.10 Testing: Rated speed rpm : 400 rack travel mm : 5.70 Tolerance mm : + 0.10 rack travel mm : 2.00 Rated speed rpm : 450 Tolerance 1/min : + 30 TORQUE CONTROL Rated speed rpm : 1000 rack travel mm : 12.15
pre-tension click setting x : 2.00 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1000 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 120.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 3.5 Spreed Tolerance	rack travel mm : 5.20 Tolerance mm : + 0.10 Testing: Rated speed rpm : 400 rack travel mm : 5.70 Tolerance mm : + 0.10 rack travel mm : 2.00 Rated speed rpm : 450 Tolerance 1/min : + 30 TORQUE CONTROL Rated speed rpm : 1000
pre-tension click setting x : 2.00 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1000 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 120.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 3.5 Spreed Tolerance cm3/1000 strokes : 4.0	rack travel mm : 5.20 Tolerance mm : + 0.10 Testing: Rated speed rpm : 400 rack travel mm : 5.70 Tolerance mm : + 0.10 rack travel mm : 2.00 Rated speed rpm : 450 Tolerance 1/min : + 30 TORQUE CONTROL Rated speed rpm : 1000 rack travel mm : 12.15
pre-tension click setting x : 2.00 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1000 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 120.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 3.5 Spreed Tolerance	rack travel mm : 5.20 Tolerance mm : + 0.10 Testing: Rated speed rpm : 400 rack travel mm : 5.70 Tolerance mm : + 0.10 rack travel mm : 2.00 Rated speed rpm : 450 Tolerance 1/min : + 30 TORQUE CONTROL Rated speed rpm : 1000 rack travel mm : 12.15

STARTING FUEL DELIVERY

Rated speed rpm	:	100
rack travel mm	:	20.00
Tolerance mm	: +	- 1.00
Del. quantity		
cm3/1000 strokes	:	145.0
Tolerance		
cm3/1000 strokes	: +	- 10.0
Check tolerance		
cm3/1000s.	: +	- 13.0

LOW IDLE

:	400	
: +-	5.70 0.10	
:	17.0	
: +-	2.0	
: +-	4.5	
:	6.0	
:	8.0	
	•	: 5.70 : + 0.10 : 17.0 : + 2.0 : + 4.5 : 6.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 01.07.97 Test oil : ISO 4113

Combination No. : C 400 866 208AJ

Injection pump Pump designation : EP type number

Governor

Governer design. : Governer no.

Cust. part No. : 3927149

Customer—spec. information : CUMMINS Customer

TEST BENCH REQUIREMENTS

Inlet line : 2.

Test oil inlet

temp. °C 40 Tolerance *C : + 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5

Test nozzle holde

: 1 688 901 100 assembly

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0 Tolerance bar : + 1.0

Firing order : 1-5-3-6-2-

: 0-60-120-180-240 Phasing

: -300

: - 0.50 Tolerance

Check

tolerance °NW : +- 0.75

Start of delivery mark

*NW after s.o.d. : 10.00

Tolerance : + 0.10

Check

tolerance *NW : + 0.29

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm : 12.15 Tolerance mm : +- 0.05

Del. quantity

cm3/1000 strokes : 120.0

Tolerance

cm3/1000 strokes : + 1.0

Check tolerance

cm3/1000s. : +- 3.5

Spreed

Tolerance

cm3/1000 strokes : 4.0

N07

Check tolerance cm3/1000s. : 6.5	CONTROL LEVER
	control lever
-	position degree : 87.0
Rated speed rpm : 400	tolerance degree : + 4.0
Rack travel in mm: 5.70	RATED SPEED
Tolerance mm : + 0.10	rack travel mm : 11.10
Del. quantity -	Rated speed rpm : 1065
cm3/1000 strokes : 17.0	Tolerance 1/min : - 5
Tolerance - cm3/1000 strokes : +- 2.0 -	rack travel mm : 4.00
Check tolerance	(
cm3/1000s. : + 4.5	Rated speed rpm : 1090 Tolerance 1/min : +- 5
Spreed 4.5	l locerance min : +- 5
Tolerance	rack travel mm : 0.85
cm3/1000 strokes : 6.0	Tolerance mm : +- 0.55
Check tolerance	Rated speed rpm : 1300
cm3/1000s. : 8.0	. 1300
•	rack travel mm : 4.00
	Rated speed rpm : 1090
(B) SETTING OF INJECTION PUMP -	Tolerance 1/min : + 15
WITH GOVERNOR	
GUIDE SLEEVE POSITION -	LOW IDLE
control lever	control lever
hosition degree · FRFF	E nostrion deares ' Ay II
position degree : FREE - Rated speed row : 800	position degree : 69.0 tolerance degree : + 4.0
position degree : FREE - Rated speed rpm : 800 -	tolerance degree : +- 4.0
Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20	tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 400
Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring	tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 400 rack travel mm : 5.20
Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension	tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 400
Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring	tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 400 rack travel mm : 5.20 Tolerance mm : + 0.10
Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension	tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 400 rack travel mm : 5.20
Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 2.00	tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 400 rack travel mm : 5.20 Tolerance mm : + 0.10 Testing:
Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension	tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 400 rack travel mm : 5.20 Tolerance mm : + 0.10 Testing: Rated speed rpm : 400
Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 2.00 FULL LOAD DELIVERY AT FULL LOAD STOP	tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 400 rack travel mm : 5.20 Tolerance mm : + 0.10 Testing:
Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 2.00 FULL LOAD DELIVERY AT FULL LOAD STOP	tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 400 rack travel mm : 5.20 Tolerance mm : + 0.10 Testing: Rated speed rpm : 400 rack travel mm : 5.70
Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 2.00 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1000	tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 400 rack travel mm : 5.20 Tolerance mm : + 0.10 Testing: Rated speed rpm : 400 rack travel mm : 5.70 Tolerance mm : + 0.10 rack travel mm : 2.00
Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 2.00 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1000 Aneroid pressure hPa : - Del. quantity	tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 400 rack travel mm : 5.20 Tolerance mm : + 0.10 Testing: Rated speed rpm : 400 rack travel mm : 5.70 Tolerance mm : + 0.10 rack travel mm : 2.00 Rated speed rpm : 450
Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 2.00 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1000 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 120.0	tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 400 rack travel mm : 5.20 Tolerance mm : + 0.10 Testing: Rated speed rpm : 400 rack travel mm : 5.70 Tolerance mm : + 0.10 rack travel mm : 2.00
Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 2.00 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1000 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 120.0 Tolerance	tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 400 rack travel mm : 5.20 Tolerance mm : + 0.10 Testing: Rated speed rpm : 400 rack travel mm : 5.70 Tolerance mm : + 0.10 rack travel mm : 2.00 Rated speed rpm : 450
Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 2.00 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1000 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 120.0 Tolerance cm3/1000 strokes : + 1.0	tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 400 rack travel mm : 5.20 Tolerance mm : + 0.10 Testing: Rated speed rpm : 400 rack travel mm : 5.70 Tolerance mm : + 0.10 rack travel mm : 2.00 Rated speed rpm : 450 Tolerance 1/min : + 30
Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 2.00 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1000 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 120.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance	tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 400 rack travel mm : 5.20 Tolerance mm : + 0.10 Testing: Rated speed rpm : 400 rack travel mm : 5.70 Tolerance mm : + 0.10 rack travel mm : 2.00 Rated speed rpm : 450 Tolerance 1/min : + 30
Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 2.00 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1000 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 120.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 3.5	tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 400 rack travel mm : 5.20 Tolerance mm : + 0.10 Testing: Rated speed rpm : 400 rack travel mm : 5.70 Tolerance mm : 5.70 Tolerance mm : 450 Rated speed rpm : 450 Tolerance 1/min : + 30 TORQUE CONTROL Rated speed rpm : 1000
Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 2.00 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1000 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 120.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 3.5 Spreed	tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 400 rack travel mm : 5.20 Tolerance mm : + 0.10 Testing: Rated speed rpm : 400 rack travel mm : 5.70 Tolerance mm : + 0.10 rack travel mm : 2.00 Rated speed rpm : 450 Tolerance 1/min : + 30 TORQUE CONTROL Rated speed rpm : 1000 rack travel mm : 12.15
Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 2.00 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1000 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 120.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 3.5 Spreed Tolerance	tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 400 rack travel mm : 5.20 Tolerance mm : + 0.10 Testing: Rated speed rpm : 400 rack travel mm : 5.70 Tolerance mm : 5.70 Tolerance mm : 450 Rated speed rpm : 450 Tolerance 1/min : + 30 TORQUE CONTROL Rated speed rpm : 1000
Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 2.00 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1000 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 120.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 3.5 Spreed Tolerance cm3/1000 strokes : 4.0	tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 400 rack travel mm : 5.20 Tolerance mm : + 0.10 Testing: Rated speed rpm : 400 rack travel mm : 5.70 Tolerance mm : + 0.10 rack travel mm : 2.00 Rated speed rpm : 450 Tolerance 1/min : + 30 TORQUE CONTROL Rated speed rpm : 1000 rack travel mm : 12.15
Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 2.00 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1000 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 120.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 3.5 Spreed Tolerance	tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 400 rack travel mm : 5.20 Tolerance mm : + 0.10 Testing: Rated speed rpm : 400 rack travel mm : 5.70 Tolerance mm : + 0.10 rack travel mm : 2.00 Rated speed rpm : 450 Tolerance 1/min : + 30 TORQUE CONTROL Rated speed rpm : 1000 rack travel mm : 12.15

STARTING FUEL DELIVERY

Rated speed rpm	;		100
rack travel mm	:		20.00
Tolerance mm	:	+	1.00
Del. quantity			
cm3/1000 strokes	:		145.0
Tolerance			
cm3/1000 strokes	:	+-	10.0
Check tolerance			
cm3/1000s	•	4	13 N

LOW IDLE

Rated speed rpm	:	400
Rack travel in mm Tolerance mm Del. quantity	; ; +-	5.70 0.10
cm3/1000 strokes	:	17.0
Tolerance cm3/1000 strokes Check tolerance	: +-	2.0
cin3/1000S. Spreed	:	4.5
Tolerance		
cm3/1000 strokes Check tolerance	:	6.0
cm3/1000s.	:	8.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 25.06.97 : ISO 4113

Combination No. : 0 400 866 222

Injection pump

Pump designation: PES6A95D410/3RS2907

EP type number : 0 410 896 884

Governor

Governer design. : RSV325...1250A5C950L

Governer no. : 0 420 232 641

Cust. part No. : 0423 1601 KY

Customer-spec. information

Customer

: KHD-DMI

Motor

: F6L912/913 NEU

Power KW

: 81.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C

40

Tolerance °C

2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

assembly

: 0 681 343 009

Opening pressure

: 173.5

Tolerance bar

Test Lines : 1 680 750 014

Outside diameter : 6.0

N10

x inside diameter: 2.0

x length mm :

600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

26.0 Test pressure bar : Tolerance bar : + 1.0

Prestroke mm : 3.00 : +- 0.05 Tolerance mm

Check

tolerance mm

: +- 0.10

Rack travel in mm : 10.50

Tolerance mm : +- 1.50

Firing order : 1-5-3-6-2-

: 0-60-120-180-240 Phasing

: -300

: +- 0.50 Tolerance

Check

tolerance °NW : +- 0.75

BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm: 11.35

Tolerance mm : \leftarrow 0.05

Del. quantity

cm3/1000 strokes : 76.0

Tolerance

cm3/1000 strokes : \leftarrow 1.0

Check tolerance

cm3/1000s.

: + 3.0

Spreed	_	+ Tolerance	
	-	cm3/1000 strokes	: 3.5
Tolerance	-	Check tolerance	
cm3/1000 strokes	: 3.5	cm3/1000s.	: 8.0
Check tolerance		Ţ	
cm3/1000s.	: 8.0		
		CONTROL LEVER	
	•	t control lever	
Rated speed rpm	• 325	position degree	• 107.0
ratea opera i piir		tolerance degree	
Rack travel in mm	: 8.50	+	
Tolerance mm	: + 0.10	RATED SPEED	
Del. quantity		rack travel mm	: 10.35
cm3/1000 strokes Tolerance	: 11.5	Rated speed rpm	
cm3/1000 strokes	÷ + 2.0	Tolerance 1/min	; ***
Check tolerance		rack travel mm	: 4.00
cm3/1000s.	: +- 4.5	Rated speed rpm	
Spreed		Tolerance 1/min	
Tolerance	سو مو	+	0.05
cm3/1000 strokes	: 5.5	rack travel mm	
Check tolerance cm3/1000s.	; 9.0	Tolerance mm Rated speed rpm	: +- U.55
.!!D/ 10003.	. 9.0	r Rated speed rpin	: 1550
		rack travel mm	: 4.00
(B) SETTING OF INJ	ECTION PUMP -	Rated speed rpm	
WITH GOVERNOR	•	Tolerance 1/min	: +- 15
	•	†	
GUIDE SLEEVE POSIT	TION		
	•	LOW IDLE	
A 1 1	•	+	
control lever	. FREE	t control lever	
position degree Rated speed rpm		position degree	• 73 በ
torca speed i piii		tolerance degree	
Rack travel in mm	: 0.50	+	
Tolerance mm	: + 0.20	Setting point w/c	out bumper spring
10\10 maa = ================================	•	Dated anced ===	, 725
governor spring pre-tension		Rated speed rpm	
click setting x	: 4.25	rack travel mm Tolerance mm	: +- 0.10
		+	
	-	Rated speed rpm	: 100
FULL LOAD DELIVERY	AT FULL LOAD STOP		40.50
Ontant massal mass	. 1250	CRT mm min.	: > 19.50
Rated speed rpm Aneroid pressure	1450	† Testing:	
Aneroid pressure hPa	•	T resumg:	
	▼		
Del. quantity	•	Rated speed rpm	: 325
Del. quantity cm3/1000 strokes	: 76.0	Rated speed rpm rack travel mm	: 325 : 8.50
cm3/1000 strokes Tolerance	•	Rated speed rpm rack travel mm Tolerance mm	: 325 : 8.50 : + 0.10
cm3/1000 strokes Tolerance cm3/1000 strokes	•	rack travel mm Tolerance mm	: 8.50 : + 0.10
cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance	: ← 1.0	rack travel mm Tolerance mm	: 8.50 : + 0.10
Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed	: ← 1.0	Rated speed rpm rack travel mm Tolerance mm rack travel mm Rated speed rpm Tolerance 1/min	: 8.50 : + 0.10 : 2.00 : 595

TORQUE CONTROL

Rated speed rpm : 1250 rack travel mm : 11.35 Tolerance mm : +- 0.05

Rated speed rpm : 500

STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 20.25 Tolerance mm : \leftarrow 0.75 Del. quantity cm3/1000 strokes : 130.0

Tolerance

cm3/1000 strokes : +- 7.5

Check tolerance

cm3/1000s. : +- 10.0

LOW IDLE

Rated speed rpm : 325

Rack travel in mm: 8.50 Tolerance mm: $\leftarrow 0.10$ Del. quantity cm3/1000 strokes : 11.5

Tolerance cm3/1000 strokes : + 2.0

Check tolerance

cm3/1000s. : +- 4.5

Spreed

Tolerance

cm3/1000 strokes : 5.5

Check tolerance

cm3/1000s. 9.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 25.06.97 : ISO 4113

Combination No. : 0 400 866 235

Injection pump

Pump designation : PES6A95D410/3RS2907

EP type number : 0 410 896 884

Governor

Governer design. : RSV325...1250A5C951L

Governer no. : 0 420 232 642

Cust. part No. : 0423 2334 KY

Customer-spec. information Customer : KHD-DMI : F6L913 : 89.0 Motor Power KW

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

: 0 681 343 009 assembly

Opening pressure bar : 173.5
Tolerance bar : + 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 3.00 Tolerance mm : + 0.05

Check

tolerance mm : \leftarrow 0.10

Rack travel in mm : 10.50 Tolerance mm : ← 1.50

Firing order : 1-5- 3- 6- 2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : **←** 0.50

Check

tolerance °NW : + 0.75

BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm : 11.35 Tolerance mm : \leftarrow 0.05

Del. quantity cm3/1000 strokes : 76.0

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance cm3/1000s.

: +- 3.0

Spreed

Tolerance cm3/1000 strokes : 3.5	Check tolerance cm3/1000s. : 8.0
Check tolerance cm3/1000s. : 8.0	
	CONTROL LEVER
Rated speed rpm : 325	control lever position degree : 107.0 tolerance degree : +- 4.0
Rack travel in mm: 8.50 Tolerance mm: : + 0.10	RATED SPEED
Del. quantity cm3/1000 strokes : 11.5	rack travel mm : 10.35 Rated speed rpm : 1295
Tolerance cm3/1000 strokes : +- 2.0	Tolerance 1/min : +- 5
Check tolerance cm3/1000s. : + 4.5	rack travel mm : 4.00 Rated speed rpm : 1355
Spreed	Tolerance 1/min : + 15
Tolerance cm3/1000 strokes : 5.5	rack travel mm : 0.85
Check tolerance cm3/1000s. : 9.0	Tolerance mm : +- 0.55 Rated speed rpm : 1550
(B) SETTING OF INJECTION PUMP	rack travel mm : 4.00 Rated speed rpm : 1400
WITH GOVERNOR	Tolerance 1/min : + 15
GUIDE SLEEVE POSITION	LOW IDLE
control lever position degree : FREE	+ control lever
Rated speed rpm : 800	position degree : 73.0 tolerance degree : + 4.0
Rack travel in mm : 0.50 Tolerance mm : + 0.20	Setting point w/out bumper spring
governor spring	Rated speed rpm : 325
pre-tension click setting x : 4.25	rack travel mm : 8.00 Tolerance mm : + 0.10
First LOAD DELTHEON AT FIRST LOAD CTOD	Rated speed rpm : 100
FULL LOAD DELIVERY AT FULL LOAD STOP	CRT mm min. : > 19.50
Rated speed rpm : 1250 Aneroid pressure	Testing:
hPa : - Del. quantity	Rated speed rpm : 325
cm3/1000 strokes : 76.0 Tolerance	rack travel mm : 8.50 Tolerance mm : +- 0.10
cm3/1000 strokes : + 1.0 Check tolerance	rack travel mm : 2.00
cm3/1000s. : + 3.0 Spreed	Rated speed rpm : 595 Tolerance 1/min : + 30
Tolerance cm3/1000 strokes : 3.5	
	+ TORQUE CONTROL

Rated speed rpm : 1250
rack travel mm : 11.35
Tolerance mm : +- 0.05

Rated speed rpm : 750 rack travel mm : 11.80 Tolerance mm : + 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : Rated speed rpm : 750
Del. quantity
cm3/1000 strokes : 70.0
Tolerance

cm3/1000 strokes : + 2.0
Check tolerance
cm3/1000S. : + 4.5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 17.00
Tolerance mm : + 0.75
Del. quantity
cm3/1000 strokes : 90.0
Tolerance
cm3/1000 strokes : + 7.5
Check tolerance
cm3/1000s. : + 10.0

LOW IDLE

Rated speed rpm : 325

Rack travel in mm : 8.50

Tolerance mm : + 0.10

Del. quantity
cm3/1000 strokes : 11.5

Tolerance
cm3/1000 strokes : + 2.0

Check tolerance
cm3/1000s. : + 4.5

Spreed
Tolerance

cm3/1000 strokes : 5.5 Check tolerance cm3/1000s. : 9.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 24.06.97 Test oil : ISO 4113

Combination No. : 0 400 876 109

Injection pump

Pump designation : PES6A80D410RS2085X EP type number : 0 410 886 045

Governor

Governer design. : RSV350...1300A2C1005

: L

Governer no. : 0 420 232 405

Cust. part No. :

Customer—spec. information
Customer : MB-NFZ
Motor : 0M352
Power KW : 62.0

TEST BENCH REQUIREMENTS

Inlet line : 1.2

Test oil inler

temp. *C : 40 Tolerance *C : +- 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

assembly : 0 681 343 009

Opening pressure

bar : 173.5 Tolerance bar : + 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm : 2.20
Tolerance mm : + 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm : 10.50Tolerance mm : $\leftarrow 1.50$

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : \leftarrow 0.50

Check

tolerance $^{\bullet}NW$: + 0.75

BASIC SETTING

Rated speed rpm : 1300

Rack travel in mm : 8.05 Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 39.5

Tolerance

cm3/1000 strokes : +- 0.5

Check tolerance

cm3/1000s. : +- 2.0

Spreed

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T-1		•	
Tolerance cm3/1000 strokes	: 2.0	İ	
CIIIDA FOOD SELOKES	. 2.0	CONTROL LEVER	
Check tolerance		+	
cm3/1000s.	: 3.5	+ control lever	
		position degree	: 106.0
		+ tolerance degree	
		+	
Rated speed rpm	: 350	A RATED SPEED	
Del. quantity		+	
cm3/1000 strokes	: 11.0	+ rack travel mm	: 1.00
Tolerance		+ Tolerance mm	: +- 0.70
cm3/1000 strokes	: +- 1.0	+ Rated speed rpm	: 1575
Check tolerance		1	
cm3/1000S.	: +- 2.5	rack travel mm	: 4.00
Spreed	W 0 0	+ Rated speed rpm	
Tolerance		+ Tolerance 1/min	
cm3/1000 strokes	: 2.0	I rocerance rount	• • 10
Check tolerance	. 2.0	ASSEMBLY GOVERNOR	SETTING
cm3/1000s.	: 3.5	T ASSEMBLE GOVERNOR	OCT LING
CIBY TUUGS.	. 3.5	rack travel mm	: 8.00
		rack travet mm	: 8.00
(D) CETTING OF TH	LECTION DUMP	T	
(B) SETTING OF IN	MECITON FOME	T made annual and	: 8.00
WITH GOVERNOR		† rack travel mm	: 8.00
		†	
		T	
		† rack travel mm	: 8.00
GUIDE SLEEVE POSI	TION	†	
		.	0.00
		+ rack travel mm	: 8.00
control lever	_	†	
position degree		+	
Rated speed rpm	: 800	† rack travel mm	: 8.00
		+	
Rack travel in mm		+	
Tolerance mm	: +- 0.35	+ rack travel mm	: 8.00
		+	
governor spring		+	
pre-tension		+ LOW IDLE	
click setting x	: 4.00	†	
		+ Setting point w/o	ut bumper spring
		†	
FULL LOAD DELIVER	Y AT FULL LOAD STOP	+ Rated speed rpm	: 350
		+ rack travel mm	: 6.90
Rated speed rpm	: 1300	† Tolerance mm	: + 0.10
Aneroid pressure		+	
hPa	-	+ Rated speed rpm	: 100
Del. quantity		+	
cm3/1000 strokes	: 39.5	+ CRT mm min.	: > 17.50
Tolerance		+	
cm3/1000 strokes	: +- 0.5	+ Testing:	
Check tolerance		1	
cm3/1000s.	: +- 2.0	rack travel mm	: 2.00
Spreed	2.0	+ Rated speed rpm	
Tolerance		+ Tolerance 1/min	
cm3/1000 strokes	: 2.0	1 Total alice 17 mill	50
	. 4.0	I	
Check tolerance	: 3.5	TOPOUE CONTROL	
cm3/1000S.	; 3.5	+ TORQUE CONTROL	. 1700
		+ Rated speed rpm	
		† rack travel mm	: 8.05

Tolerance mm : \leftarrow 0.05 Rated speed rpm : 500

rack travel mm 9.35 : +- 0.05 Tolerance mm

Rated speed rpm : 700 rack travel mm : 9.30 : +- 0.10 Tolerance mm

Rated speed rpm : 950 rack cravel mm : 8.45 Tolerance mm : +- 0.15

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa

Rated speed rpm : 500

Del. quantity

cm3/1000 strokes : 38.5

Tolerance

cm3/1000 strokes : + 1.0

Check tolerance

cm3/1000s. : -- 3.0

STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 14.70 Tolerance mm : $\leftarrow 0.20$

Del. quantity

cm3/1000 strokes : 83.0

Tolerance

cm3/1000 strokes : +- 5.0

Check tolerance

cm3/1000s. : +- 8.0

LOW IDLE

Rated speed rpm : 350

Del. quantity

cm3/1000 strokes : 11.0

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance

cm3/1000s.**:** + 2.5

Spreed

Tolerance

cm3/1000 strokes : 2.0

Check tolerance cm3/1000s. : 3.5

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 19.06.97 Test oil : ISO 4113

Combination No. : 0 400 876 310

Injection pump

Pump designation : PES6A90D410RS2596 EP type number : 0 410 896 073

Governor

Governer design. : RSV350...1200AOC1148

: -1L

Governer no. : 0 420 232 456

Cust. part No. :

Customer-spec. information
Customer : MB-NFZ
Motor : OM352A
Power KW : 110.0

TEST BENCH REQUIREMENTS

Inlet line : 1.2

Test oil inlet

temp. $^{\circ}$ C : 40 Tolerance $^{\circ}$ C : + 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

assembly : 0 681 343 009

Opening pressure

bar : 173.5 Tolerance bar : + 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 2.05
Tolerance mm : + 0.05

Check

tolerance mm : + 0.10

Rack travel in mm: 10.50 Tolerance mm: + 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : C-60-120-180-240

: -300

Tolerance : \leftarrow 0.50

Check

tolerance *NW : + 0.75

BASIC SETTING

Rated speed rpm : 1180

Rack travel in mm: 12.15 Tolerance mm: +- 0.05

Del. quantity

cm3/1000 strokes : 73.5

Tolerance

cm3/1000 strokes : \leftarrow 0.5

Check tolerance

cm3/1000s. : +- 2.5

Spreed

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Tolerance cm3/1000 strokes : 3.0	CONTROL LEVER
Check tolerance cm3/1000s. : 5.0	control lever position degree : 111.0 tolerance degree : +- 4.0
Rated speed rpm : 350	RATED SPEED
Del. quantity cm3/1000 strokes : 14.0 Tolerance	rack travel mm : 0.85 Tolerance mm : ← 0.55
cm3/1000 strokes : + 2.0 + Check tolerance +	Rated speed rpm : 1460
cm3/1000s. : +- 4.0 Spreed	rack travel mm : 4.00 Rated speed rpm : 1360
Tolerance cm3/1000 strokes : 2.5 Check tolerance	Tolerance 1/min : +- 15
cm3/1000s. : 4.5	
(B) SETTING OF INJECTION PUMP	LOW IDLE
WITH GOVERNOR	Setting point w/out bumper spring
+	Rated speed rpm : 350
	rack travel mm : 8.50
GUIDE SLEEVE POSITION	Tolerance mm : + 0.10
control lever	Rated speed rpm : 100
position degree : -3 Rated speed rpm : 800	CRT mm min. : > 19.50
Park Association on a Company	Testing:
Rack travel in mm: 0.50 + O.20 +	rack travel mm : 2.00
Total differentials	Rated speed rpm : 510
governor spring	Tolerance 1/min : + 30
pre-tension +	•
click setting x : 4.00	TORQUE CONTROL
	Rated speed rpm : 1180
FULL LOAD DELIVERY AT FULL LOAD STOP	rack travel mm : 12.15
+	Tolerance mm : +- 0.05
Rated speed rpm : 1180	Dated around our 70°
Aneroid pressure + 900 +	Rated speed rpm : 725 rack travel mm : 13.65
Del. quantity	Tolerance mm : + 0.05
cm3/1000 strokes : 73.5	
Tolerance	Rated speed rpm : 900
cm3/1000 strokes : + 0.5	rack travel mm : 13.10
Check tolerance + 2.5 + 2.5	Tolerance mm : +- 0.10
Spreed	
Tolerance	ANEROID/ALTITUDE
cm3/1000 strokes : 3.0 + Check tolerance	COMPENSATOR TEST
cm3/1000s. : 5.0	SETTING
+	

Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 500 : 900 : 13.65 : + 0.05
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 500 : - : 11.55 : + 0.05
MEASUREMENT	
Rated speed rpm	: 500
Pressure hPa rack travel mm Tolerance mm	: 235 : 12.10 : + 0.10
Pressure hPa rack travel mm Tolerance mm	: 450 : 12.65 : + 0.05
FUEL DELIVERY CHA	RACTERISTICS
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: 900 : 725 : 81.0 : + 1.0 : + 3.5
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000S. Spreed Check tolerance	: 900 : 850 : 76.0 : + 2.0 : + 4.5 : 5.5
cm3/1000s.	

Check tolerance cm3/1000s.	:	+-	3.0	
STARTING FUEL DELI	IVE	ERY		
Rated speed rpm rack travel mm Tolerance mm Del. quantity	:	+	100 16.20 0.20	
cm3/1000 strokes	:		83.0	
Tolerance cm3/1000 strokes	:	+-	5.0	
Check tolerance cm3/1000s.	:	+-	8.0	
LOW IDLE				·
Rated speed rpm Del. quantity	:		350	
cm3/1000 strokes Tolerance	:		14.0	
cm3/1000 strokes	•	+-	2.0	
Check tolerance cm3/1000s. Spreed	:	+	4.0	
Tolerance cm3/1000 strokes	:		2.5	
Check tolerance cm3/1000s.	•		4.5	

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 19.06.97 : ISO 4113

Combination No. : 0 400 876 397

Injection pump

Pump designation : PES6A95D41ORS2797 EP type number : 0 410 896 900

Governor

Governer design. : RSV350...1400A0C2006

: -8L

: 0 420 232 580 Governer no.

Cust. part No. :

Customer-spec. information Customer : MB-NFZ : OM 366 Motor Power KW : 100.0

TEST BENCH REQUIREMENTS

Inlet line : 2.3

Test oil inlet

temp. °C : + 2.0 Tolerance °C

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

: 0 681 343 009 assembly

Opening pressure

bar : 173.5 Tolerance bar : + 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter : 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 3.25
Tolerance mm : + 0.05

Check

tolerance mm : + 0.10

Rack travel in mm: 10.50 Tolerance mm : + 1.50

Firing order : 1-5- 3- 6- 2-

Phasing : 0-60-120-180-240

: -300

Tolerance : **←** 0.50

Check

tolerance "NW : + 0.75

BASIC SETTING

Rated speed rpm : 1380

Rack travel in mm: 10.15 Tolerance mm : \leftarrow 0.05

Del. quantity

cm3/1000 strokes : 62.0

Tolerance

cm3/1000 strokes : + 1.0

Check tolerance cm3/1000s.

: +- 3.0

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Spreed	- Tolerance
Tolerance	- cm3/1000 strokes : 3.5 - Check tolerance
cm3/1000 strokes : 3.5	- cm3/1000s. : 8.0 -
Check tolerance cm3/1000s. : 8.0	
	- CONTROL LEVER
Rated speed rpm : 350	- control lever - position degree : 111.0 - tolerance degree : +- 4.0
Rack travel in mm : 8.10 - Tolerance mm : +- 0.10	
Del. quantity cm3/1000 strokes : 8.0	- ASSEMBLY GOVERNOR SETTING
Tolerance	- Rated speed rpm : 1430
cm3/1000 strokes : +- 2.0 Check tolerance	- rack travel mm : 9.10
cm3/1000s. : + 4.5	- Rated speed rpm : 1496 - Tolerance 1/min : + 6
Tolerance	- rack travel mm : 4.00
cm3/1000 strokes : 5.5 Check tolerance	- - rack travel mm : 1.00
cm3/1000s. : 9.0	- Tolerance mm : +- 0.70 - Rated speed rpm : 1650
<u> </u>	- Rated speed rpm : 1650 -
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	- - Rated speed rpm : 1431
-	rack travel mm : 9.10
	- Rated speed rpm : 1497
GUIDE SLEEVE POSITION	Tolerance 1/min : +- 6 rack travel mm : 4.00
control lever	rack travel mm : 1.00
position degree : - 3	- Tolerance mm : +- 0.70
Rated speed rpm : 800	- Rated speed rpm : 1650
Rack travel in mm: 0.65	Data di anno di 1772
Tolerance mm : +- 0.35	- Rated speed rpm : 1432 - rack travel mm : 9.10
governor spring - pre-tension -	- - Rated speed rpm : 1498
click setting x : 4.50	- Tolerance 1/min : +- 6
	- rack travel mm : 4.00
FULL LOAD DELIVERY AT FULL LOAD STOP	rack travel mm : 1.00 - Tolerance mm : +- 0.70
Rated speed rpm : 1380	- Rated speed rpm : 1650
Aneroid pressure + + + + + + + + + + + + + + + + + + +	<u>.</u>
Del. quantity	Rated speed rpm : 1433
cm3/1000 strokes : 62.0 Tolerance	- rack travel mm : 9.10
cm3/1000 strokes : +- 1.0 Check tolerance	- Rated speed rpm : 1499 - Tolerance 1/min : +- 6
cm3/1000s. : +- 3.0	rack travel mm : 4.00
Spreed	rack travel mm : 1.00

Tolerance mm : +- 0.70 Rated speed rpm : 1650	Rated speed rpm : 400 rack travel mm : 11.45 Tolerance mm : +- 0.15
Rated speed rpm : 1434 rack travel mm : 9.10	Rated speed rpm : 630 rack travel mm : 11.05
Rated speed rpm : 1500 + Tolerance 1/min : + 6 + cack travel mm : 4.00 + cack travel mm : 4.00	Tolerance mm : + 0.15 Rated speed rpm : 925
rack travel mm : 1.90 + Tolerance mm : +- 0.70 + Rated speed rpm : 1650 + Tolerance mm :	rack travel mm : 10.55 Tolerance mm : + 0.15
Rated speed rpm : 1435 + rack travel mm : 9.10	FUEL DELIVERY CHARACTERISTICS
Rated speed rpm : 1501 Tolerance 1/min : + 6 rack travel mm : 4.00	Aneroid pressure hPa : - Rated speed rpm : 400
rack travel mm : 1.00 +	Del. quantity cm3/1000 strokes : 50.5 Tolerance cm3/1000 strokes : +- 2.0
LOW IDLE	Check tolerance cm3/1000s. : +- 4.0
tow loce	Aneroid pressure
control lever position degree : 78.0 tolerance degree : + 4.0	hPa : - Rated speed rpm : 630 Del. quantity
Setting point w/out bumper spring +	cm3/1000 strokes : 51.0 Tolerance
Rated speed rpm : 100	cm3/1000 strokes : +- 2.0 Check tolerance
CRT mm min. : > 19.50	cm3/1000s. : +- 4.0
Testing:	Aneroid pressure
Rated speed rpm : 350 rack travel mm : 8.10	hPa : - Rated speed rpm : 925 Del. quantity
Tolerance mm : + 0.10 + rack travel mm : 2.00 +	cm3/1000 strokes : 59.0 Tolerance cm3/1000 strokes : +- 2.0
Rated speed rpm : 510 Tolerance 1/min : + 30	Check tolerance cm3/1000s. : +- 4.0
SET IDLE AUXILIARY SPRING	
Rated speed rpm : 100	STARTING FUEL DELIVERY
TORQUE CONTROL Rated speed rpm : 1380 rack travel mm : 10.15 Tolerance mm : +- 0.05	Rated speed rpm : 100 rack travel mm : 14.80 Tolerance mm : + 0.20 Del. quantity cm3/1000 strokes : 83.0

Tolerance cm3/1000 strokes : +- 7.5 Check tolerance

cm3/1000S. : +- 10.0

LOW IDLE

Rated speed rpm : 350 Rack travel in mm: 8.10 : + 0.10 Tolerance mm Del. quantity cm3/1000 strokes : 8.0 Tolerance cm3/1000 strokes : +- 2.0 Check tolerance cm3/1000s. : + 4.5 Spreed Tolerance cm3/1000 strokes : 5.5 Check tolerance cm3/1000s. : 9.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 24,06,97 : ISO 4113

Combination No. : F 002 A0Z 053

Injection pump

Pump designation : PES6A95D320/3RS2916

EP type number : F 002 A10 010

Governor

Governer design. : RSV475...1050A0C933R

Governer no. : F 002 A20 239

Cust. part No. : 3283920

Customer-spec. information Customer : CUMMINS Motor Motor : óBT Power KW : 107.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 2 417 413 093

Inlet press. bar : 2.0

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test Lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar: 17.0 Tolerance bar : +- 1.0

Prestroke mm : 2.85
Tolerance mm : +- 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm: 10.50 Tolerance mm : ← 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : +- 0.50

Check

tolerance °NW : +- 0.75

Start of delivery blocking

*NW after s.o.d. : 7.00 Tolerance : +- 0.10

Check

tolerance *NW : +- 0.29

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm: 12.20 Tolerance mm : \leftarrow 0.05

Nr.

	Aneroid pressure
Del. quantity	hPa : 800
cm3/1000 strokes : 104.8	Del. quantity cm3/1000 strokes : 104.8
Tolerance + 1.0 +	Tolerance cm3/1000 strokes : +- 1.0
Check to Language	Check tolerance cm3/1000s. : +- 3.0
Check tolerance cm3/1000s. : + 3.0	Spreed Tolerance
Spreed	cm3/1000 strokes : 4.0 Check tolerance
Tolerance	cm3/1000s. : 6.5
cm3/1000 strokes : 4.0	
Check tolerance cm3/1000s. : 6.5	CONTROL LEVER
	control lever
+	position degree : 104.0
Rated speed rpm : 475	tolerance degree : +- 4.0
Rack travel in mm: 5.40	RATED SPEED
Tolerance mm : + 0.10 +	rack travel mm : 11.20
Del. quantity	Rated speed rpm : 1110
cm3/1000 strokes : 18.8	Tolerance 1/min : +- 5
Tolerance +- 2.0	rack travel mm : 4.00
Check tolerance	Rated speed rpm : 1200
cm3/1000s. : + 4.5	Tolerance 1/min : + 5
Spreed	
Tolerance +	rack travel mm : 0.85
cm3/1000 strokes : 6.0	Tolerance mm : + 0.55
Check tolerance + cm3/1000s. : 8.0	Rated speed rpm : 1300
cm3/1000s. : 8.0	rack travel mm : 4.00
I	Rated speed rpm : 1200
(B) SETTING OF INJECTION PUMP	Tolerance 1/min : + 15
WITH GOVERNOR	
1	
OUTDE OF EDITE DOOTTON	LOUI TOLE
GUIDE SLEEVE POSITION	LOW IDLE
+	
control lever	control lever
position degree : FREE	position degree : 85.0
Rated speed rpm : 800	tolerance degree : +- 4.0
Rack travel in mm: 0.50	Control lever difference
Tolerance mm : + 0.20	Grad : 19.0
+	tolerance degree : +- 6.0
governor spring	
pre-tension (00	Setting point w/out bumper spring
click setting x : 4.00	Rated speed rpm : 475
I	rack travel mm : 4.90
FULL LOAD DELIVERY AT FULL LOAD STOP	Tolerance mm : +- 0.10
Rated speed rpm : 1050	Rated speed rpm : 100

CRT mm min. Testing:	: > 19.00	Tolerance cm3/1000 strokes : \(\sim 2.0 \) Check tolerance cm3/1000s. : \(\sim 4.0 \)
Rated speed rpm rack travel mm Tolerance mm	: 475 : 5.40 : ← 0.10	Aneroid pressure hPa : - Rated speed rpm : 500
rack travel mm Rated speed rpm Tolerance 1/min	: 580	Del. quantity cm3/1000 strokes : 79.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance
TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm	: 12.20	cm3/1000s. : + 3.0
Rated speed rpm rack travel mm Tolerance mm	: 800 : 12.60 : + 0.20	+ STARTING FUEL DELIVERY Rated speed rpm : 100 rack travel mm : 20.50 Tolerance mm : + 0.50 Del. quantity
ANEROID/ALTITUDE COMPENSATOR TEST		cm3/1000 strokes : 120.5 Tolerance cm3/1000 strokes : +- 10.0
SETTING		+ Check tolerance + cm3/1600s. : ← 15.0
Rated speed rpm Pressure hPa	: 500 : 800	
Rated speed rpm Pressure hPa rack travel mm Tolerance mm MEASUREMENT Rated speed rpm Pressure hPa	: 10.15 : + 0.20 : 500	Rated speed rpm : 475 Rack travel in mm : 5.40 Tolerance mm : + 0.10 Del. quantity cm3/1000 strokes : 18.8 Tolerance cm3/1000 strokes : + 2.0
rack travel mm Tolerance mm	: 12.10 : + 0.20	Check tolerance cm3/1000s. : +- 4.5
Pressure hPa rack travel mm Tolerance mm	: 11.60	Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 8.0
FUEL DELIVERY CHA	ARACTERISTICS	
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes	: 800 : 800	End of test specification sheet